Gleanings in Bee Culture

ESTABLISHED 1873

CONTENTS

SEPTEMBER, 1936

Honey Markets	516-517
Future Honey Price Trends—Prof. H. F. Wilson	521-525
A Confab—E. R. Root	525-527
Inverted Queen Introduction—C. L. N. Pearson	528
Canning with Honey—Mrs. Benjamin Nielsen	529-530
Government Bee Work—E. R. Root	531-533
Beekeeping in Pennsylvania—Edwin J. Anderson	533-537
How to Get to San Antonio—E. R. Root	538
Texas Beekeepers' Association Activities—H. B. Parks	538
Dr. E. F. Phillips—E. R. Root	539-540
Geo. H. Rea—E. R. Root	539-540
Winter Hives—C. R. Walker	541-542
The Menace of Fire—W. H. Hull	542
Efficient Inspection Needed—H. M. Carr	542-543
Combating Wax Moths—Clarence J. Tontz	543-544
Washboard Movement of Bees—Penn G. Snyder	544-545
A Young Bee Enthusiast—Henry H. Graham	545
Comments on Current Items—J. F. Dunn	545
Spinster Jane Says—	546
Heads of Grain from Different Fields	547-548
Editorials	549-551
From North, East, West, and South	552-559
Talks to Beginners—M. J. Deyell	560-561
Gleaned by Asking—The Editors	562-563
American Honey Institute News Notes	564
Just News	565

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XUM

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Friction-top Pails, 60-lb. Cans, Modernistic, Skep, and Plain Jars, Paper Cases, Cartons, and Wrappers for Comb Honey, Cartons for Shipping Single 60-lb. Cans of Honey, Cartons for Shipping Six 5-lb. Pails of Honey.

Everything you need to market your honey—is carried at our warehouse in Syracuse—the central shipping point of New York, with overnight truck shipment to most points.

5-lb. pails, in lots of 50, $3.45; in lots of 500, $32.00; 1,000 and over, $62.00 per 1000.

Send for our special container price list and booklet, "How to Sell Honey."

We are still rendering old combs and cappings. Send yours to us! We pay the highest market price for wax. Our complete terms will be sent on request.

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FACTORY TO YOU
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KITSELMAN FENCE
Guaranteed highest quality at lowest prices. Copper-Blend Steel, 99 92/100% *pure* zinc galvanized. ***Horse-high, Bull-strong, Pig-tight*** Farm Fence; Poultry and Lawn Fence, Steel Posts, Gates, Barb Wire, Paints, Roofing. WE PAY FREIGHT.
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Box 21 ***Muncie, Indiana.***

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We have a special proposition of interest to all dealers or to all beekeepers who wish to become dealers of Beekeepers' Supplies. Write for information. All goods are GUARANTEED SATISFACTORY.

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W. T. Falconer Mfg. Company
Falconer, New York

Root Service from
CHICAGO

CONTAINERS
We sell the best makes.

GLASS
Twenty different jars.

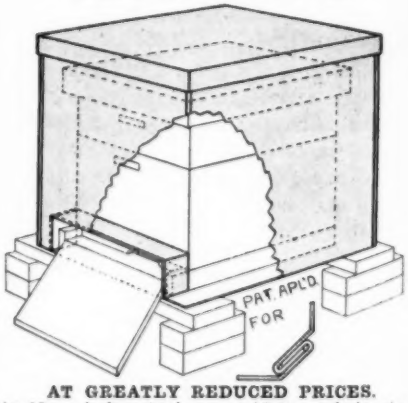
TIN
All customary sizes.

CARTONS, WRAPPERS, CASES
A complete line.

Container price list is free. Get our quotation on your list and save money.

A. I. Root Co. of Chicago
224 West Huron Street
CHICAGO, ILL.

A Proven Winter Packing Case for Bee Hives



AT GREATLY REDUCED PRICES.
$2.65 each for single case, $2.20 each in standard package of five. Limit of 10 cases to each purchaser. Have you had winter losses due to damp insulation? This packing case, made of 28-ga. galvanized steel—each case weighs about 21 pounds—is weather and mouse proof. Many satisfied users. Always ready for use. A great labor and time saver. Quickly assembled by sliding seams and packs away in small space. Should last a lifetime. Made only for 10-frame standard hive and super. Size about 21¾ inches wide, 25½ inches long by 21¾ inches high
CLARK SPRAY MACHINE CO.,
HARTFORD, OHIO

NOTICE!

Honey Containers

NEW! SAFE! SANITARY!

The following new retail prices cancel our 1936 catalog prices on Tin Containers.

Fresh stock, pure tin soldered pails. A brand new feature that will help sell the honey that you pack in tin.

+

2½-lb. cans, per reship. case of 24	$1.13
2½-lb. cans, per carton of 100	3.90
5-lb. pails, per reship. case of 12	1.03
5-lb. pails, per carton of 50	3.50
10-lb. pails, per reship. case of 6	.82
10-lb. pails, per carton of 50	5.05
60-lb. cans, in bulk, each	.34
60-lb. cans, per case of 2 cans	1.00

+

F. O. B. Boyd, Wisconsin.

+

Orders of $ 50.00— 5% Discount
Orders of 100.00—10% Discount

For a complete list of glass and paper honey containers, refer to our 1936 catalog.

AUGUST LOTZ CO.
BOYD, WISCONSIN

Honey Containers

FRICTION TOP PAILS
2½-lb., 5-lb., and 10-lb. sizes.

5-GALLON TIN CANS
Priced in bulk or in cases of two each.

GLASSWARE
5-oz., 8-oz., 16-oz., 32-oz. and 64-oz. Modernistic, and also one pint round jars.

WINDOW CARTONS
Neat and well made, best package for your comb honey.

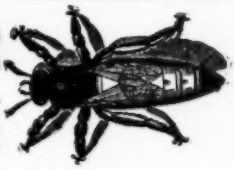
PAPER CASES FOR COMB HONEY
Holding 24 sections each for 1⅞" sections and 4x5 and 1½" plain sections.

CELLOPHANE WRAPPERS
Both plain and decorated.

TIN PASTE
It sticks, packed in pints, quarts and gallons.

M. H. Hunt & Son
510 N. Cedar St., Lansing, Mich.

IF WE GET TOGETHER



You Will Save Money!

ULTRA VIOLET RAY TREATED QUEENS

Requeen now for a big crop next season. Produce gentler bees, more prolific queen.

1 to 9	75c each
10 to 24	70c each
25 to 74	65c each
75 to 100	60c each

HONEY

We buy white and amber extracted honey, also Fancy White comb honey.

BEESWAX

We render wax from your old comb at reasonable prices. We work your wax into comb foundation.

Note These Prices

	Lots of 50	Lots of 100
HONEY PAILS AND CANS		
5-lb. Friction Top Pails	$3.15	$6.30
10-lb. Friction Top Pails	4.65	9.30
2½-lb. Friction Top Pails (100 lots only)		5.00
60-lb. New Cans, bulk, lots of 50 or more		.30 each
60-lb. New Cans, bulk, less than 50		.32 each
HONEY JARS		
16-oz. Modernistic Jars, pkd. 2 doz		$0.85 case
48-oz. Modernistic Jars, pkd. 1 doz		.85 case
32-oz. Modernistic Jars, pkd. 1 doz		.80 case
6½-oz. Modernistic Jars, pkd. 2 doz		.70 case
4-oz. Tumblers, pkd. 2 doz		.40 case
CORRUGATED SHIPP'G CASES (for comb honey)		
Holds 24 sections, sizes 4¼x4¼x1⅞ or 4x5x1⅞. Lots of 10 or more		.25c each
CELLOPHANE WRAPPERS (for comb honey), Beautiful 3-Color		
For 4¼x4¼x1⅞ sec	$1.00 per 100	$4.50 per 500
For 4¼x4¼x1½ sec	1.00 per 100	4.50 per 500
For 4x5x1⅞ sec	1.10 per 100	5.00 per 500
Paste		.65c per quart

WRITE FOR OUR GENERAL PRICE LIST

The Fred W. Muth Co. PEARL AND WALNUT STREETS CINCINNATI, OHIO

The Monthly Honey Market

U. S. GOVERNMENT REPORT

Information from Producing Areas (first half of August).

California Points: Southern California: The weather has been clear, with temperatures normal to slightly above. Considerable fog reported along the coast, but precipitation has been slight. Excessive hot weather has stopped the honey flow in sage ranges except in the highest altitudes, but bees are working a little on sumac, beans and eucalyptus. Some colonies have been moved to blue curl and thistle ranges. Pollen and nectar have been sufficient to maintain normal brood-rearing in most locations. Total yield of honey, throughout the sage belt especially, has been extremely light. The market is firm to slightly stronger with local demand fairly good. Eastern inquiry was generally good, but sales only moderate as eastern buyers have been reluctant to purchase California honey at present prices. Sales by beekeepers in ton lots or more, per lb., f. o. b. southern California delivery points, reported as follows: New crop orange, extra white to water white, 6¼-6½c; white, 6-6½c, occasional sales higher; buckwheat-sage, extra light amber, 5-5¼c; light amber, 4¾-5c. Beeswax is firm, with demand generally good at 20-21c; some, 19c per lb., delivered Los Angeles. Imperial Valley—Extracting of the present crop is now about over. The market has strengthened, though price ranges are very wide. Sales reported of light amber to extra light amber alfalfa at $5.30-6.60 per case of 120 pounds. A number of beekeepers are holding for higher prices. The price advanced sharply at the close. Extracting is over and a fair crop has been secured. Central California—Temperatures have been above normal over most of the central part of the state with rainfall negligible. Trading has been rather slow, with considerable hesitancy on the part of most beekeepers to sell at present prices and on the part of dealers to purchase more than their current needs at the present market. Few lots of honey have changed hands during this time. Sales by beekeepers in ton lots or more, per lb., f. o. b. central California delivery points: Alfalfa-bean, light amber to extra light amber, 4¾c; white orange, 5½-5¾c per lb. Northern California—Temperatures have been slightly above normal, especially in the interior valleys. Practically no rain has fallen during this period. Thistle plants look well, but nectar secretion so far has been light. Thistle honey is now being extracted, and some beekeepers are looking for 50 per cent less honey per colony than last year. The alfalfa flow has been almost a failure. Bees at 4,000 feet elevation are doing well on cedar honeydew, and pollen is coming in from miscellaneous sources, especially mullein and plantain. Colonies are rather low in bees and in stores. Extracting of thistle honey has barely started. Airplane dusting with calcium arsenate is under way. Many buyers are now writing beekeepers for quotations for future delivery. The market is stronger, with only a moderate amount of trading. Sales by beekeepers in ton lots or more, per lb. f. o. b., northern California points: Star thistle, light amber to extra light amber, 4½-5c; extra light amber to white, 5-5½c; extra light amber clover, 4½-5c; light amber thistle-mixed flowers, 4½c; extra light amber lima bean, 4¾c; mixed flowers, 4-4½c; light amber manzanita, 4¼c. The beeswax market is slightly weaker. Good yellow wax is reported selling at 20-21c per lb. central and northern delivery points.

Pacific Northwest—West of Cascades: Little rain has fallen and the weather has been warm, so that bees have been busy gathering nectar. Some fireweed is now being taken off. Present reports are for a shorter fireweed crop than anticipated earlier, though 50-60 lbs. to the hive have been taken off in some yards. In southwestern Oregon bees are doing well and a good crop is expected, with some yards running 60 lbs. or more of honey to the hive. Good demand reported for new comb honey. A normal crop is reported in the Willamette Valley. Sales reported alfalfa-sweet clover, ton lot, 6c; small pails, 9c per lb.; wrapped comb, $3.40 per case. Beeswax is selling at 20-21c per lb. delivered Portland, with little moving. East of Cascades—In the Umatilla Valley a good crop of honey is evident, and some beekeepers report the best crop in years. Shortage of farm labor has delayed the cutting of alfalfa fields in some sections, with heavy flows of nectar reported. Sales reported, alfalfa-sweet clover, white, ton lots, 5¾-6¼c per lb.; 60's, 6¾c per lb. Light amber, 5½c per lb. In the Yakima Valley bees are working on alfalfa and sweet clover, although the honey is accumulating rather slowly. Bees are making more honey than two weeks ago. The market for honey is strong. In the Kittitas Valley, although first cutting alfalfa failed to yield a normal flow, one 8-frame super being the average, second-cutting alfalfa is now at its peak, and a crop equal to normal has already been stored. Extracting is under way and the honey is the thickest and whitest in the history of the Valley. Demand for honey is brisk in spite of competition from California honey. Sales of honey in 5-lb. pails reported at 8¾c per lb.

Intermountain Region—Although considerable honey has been extracted and beekeepers are receiving a fair number of offers, buyers generally are holding off until the size of the crop is more definitely determined. Beekeepers, realizing that there will be a shortage of white honey in the plains states at least, are also unwilling to sell at the prices offered by occasional buyers thus far. However, a number of cars of white to extra white sweet clover-alfalfa have been sold recently at 5⅜-5½c per lb. and of extra white to water white at 6c per lb. Less car lots of white to water white have moved at 5¼-5⅜c per lb.; 60's, 6c; small pails, 6½-7¼c per lb.; few higher; light amber to extra light amber, 4½-5c; few, 6c per lb. Fancy white comb has sold lightly at $2.60-3.00 per case. Beeswax, 18c per lb. cash, 19c in trade delivered Denver.

Arizona—Rains have fallen in the eastern part of the state, including the Phoenix area, and these should help bees in desert locations. Colonies in desert locations, however, are comparatively low in brood and weak in bees. Scale colonies in the alfalfa-cotton area of the Salt River Valley have made only slight gains during this period and honey is being sealed very slowly. Heavier yields are now anticipated, however. Bees are in average condition in the Yuma section and are making some surplus now on cotton. Considerable inquiry for honey reported with offers at an exceptionally wide price range. Some light amber to extra light amber alfalfa reported moved at $6.00 per case of 120 lbs., with most sales at $5.25-5.75 per case. Mesquite-catsclaw has sold, extra white to water white, $5.85-6.00 per case; extra light amber to white, $5.40-5.65 per case; light amber, $5.25-5.35 per case.

Southwestern States: South central and southwestern Texas—Honey plants and bees

are in good shape and bees are bringing in some nectar from cotton and tievine. Due to the intensive distribution of poison throughout the cotton area, however, a small cotton honey crop and a large loss of bees are seemingly in prospect. Distress honey has largely disappeared, and though sales of mesquite-horsemint in ton lots have been reported at 4½c per lb., some cotton-horsemint-mesquite honey has moved in 60's at 7c per lb., and beekeepers are receiving 8c per lb. for honey in small containers, with containers furnished in some cases, and with huajillo bringing 9c per lb. Light colored bulk comb in small pails has moved at 10-11c per lb. Although no large surplus is expected from fall honey, beekeepers are hoping it will be sufficient for winter stores.

Summary.—Temperatures have been exceptionally high from the Mississippi River west to the Rockies, with all-time heat records broken at a number of southwestern stations. Rainfall has been substantial east of the Mississippi, but much more is needed further west. However, rainfall has been sufficient so that fall prospects look a little brighter and the eastern buckwheat crop may be slightly heavier than anticipated a few weeks ago. The drouth has been sufficient to burn up many clover plants and new seedings, making prospects for next year rather uncertain. Reports from all the leading northern producing sections indicate that this year's crop of honey, although short, is of exceptionally high flavor, heavy in body and light in color. Reports confirm earlier indications of very spotted yield, and also confirm the certainty that the crop this year will be very short. Bakers are already asking for amber fall honey, but the fall crop will certainly be light. The market for extracted honey appears stronger than it was two weeks ago, and some beekeepers who contracted their entire crop earlier in the season are now turning down offers at ½-1c per pound higher than those at which they sold. Beekeepers and buyers, however, are often waiting until the market stabilizes more before selling their honey. Comb honey is extremely light and is selling above last year's level.

Monthly Report of Honey Producers

Early in August we sent the following questions to honey producers: 1. How does the honey flow (if any) thus far compare with normal? Give answer in per cent. 2. What is your estimate at this time of the 1936 honey crop in your region as compared with the average during the past five years? Give answer in per cent. 3. At what price has honey been sold, or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per pound? (b) comb honey, fancy and No. 1, per case? 4. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per case? 5. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per section. 6. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair or rapid. 7. Is there any of last year's honey left in the hands of producers in your locality? If so, what per cent of last year's crop was carried over? Answers are tabulated as follows:

State. Name.	Pct. honey flow.	Crop estim.	Large lots. Ex.	Large lots. Comb.	To grocers. Ex.	To grocers. Comb.	To retailers. Ex.	To retailers. Comb.	Movement.	1935 holdover.
S-Ala. (J. C. Dickman)	100	100			$.40		$.50		Fair	
B. C. (A. W. Finlay)		75	.10½		.75		.90		Fair	0
S-Calif. (L. L. Andrews)	20	15	.06¼				.57	.14	Fair	1
S-Calif. (Davis Bros.)	100	75	.05¼				.50		Fair	0
SE-Colo. (O. E. Adcock)	80	80	.06		.45		.55		Rapid	10
E-Conn. (A. Latham)	50	100			.75	4.50	1.00	.27	Fair	5
S-Florida. (C. C. Cook)	100	100	.06		.40		.55		Fair	0
C-Fla. (H. Hewitt)	150	150			.50		.65		Fair	0
SE-Ga. (J. J. Wilder)	85	90	.06		.50		.60		Fair	0
NC-Ill. (A. L. Kildow)	120	120	.06¾			3.00	.50	.15	Fair	0
NC-Ind. (T. C. Johnson)	100	110			.55	3.60	.65	.20	Fair	0
NW-Ind. (E. S. Miller)	100	75			.50	3.60	.65	.20	Fair	0
S-La. (E. C. Davis)	50	60	.05		.40		.60		Fair	2
N-Maine. (O. B. Griffin)	50	70				5.00	1.12	.30	Slow	0
C-Md. (S. G. Crocker)	33	50			.60	3.60	.75	.25	Slow	0
N-Mich. (I. D. Bartlett)	25	35			.55		.70		Fair	0
C-Mich. (E. D. Townsend	80	75	.08						Fair	0
E-Minn. (Francis Jager)	100	100	.07						Rapid	0
W-Minn. (B. L. Morehouse)	75	85	.07		.60		.75		Slow	0
C-Nebr. (J. H. Wagner)	25								Slow	0
N. Mex. (C. A. Baltzley)	90	90	.07	3.40	.50	4.25	.65	.25	Fair	0
W-N. Y. (Adams & Myers)	25	35	.07		.55	4.00	.85	.25	Fair	0
NW-N. Y. (Geo. B. Howe)			.07	4.80	.50	4.80	.75	.25	Fair	0
C-N. Y. (F. W. Lesser)	70	70	.07¾						Fair	0
NW-N. C. (C. S. Baumgarner)	80	80			.75		.90	.25	Slow	0
SE-N C. (W. J. Martin)	110	100	.06¾		.65		.85	.20	Fair	0
E-N. D. (M. W. Cousineau)		25	.07			6.00	.65		Fair	0
N-Ohio. (J. F. Moore)	150	150	.07		.55		.75	.18	Fair	0
NC-Okla. (C. F. Stiles)	65	50			.45		.65	.18	Slow	0
C-Okla. (C. A. Baltzley)	70	60	.06	2.75	.45	3.75	.61	.20	Slow	0
W-Ore. (H. A. Scullen)	100	100			.40		.45	.18	Slow	5
C-Pa. (Harry Beaver)	35	25	.07		.50	3.25	.60	.16	Fair	0
SE-Pa. (D. C. Gilham)	100	100			.70	4.00	1.00	.25	Slow	5
C-Texas. (T. A. Bowden)	110	120			.45		.55		Slow	0
S-Texas. (J. N. Mayes)	110	125	.04¼		.25		.40		Fair	0
S-Texas. (H. B. Parks)	80	90	.04½		.42		.50		Fair	0
W-Vt. (P. Crane)	125	130		4.00		4.50	.95	.28	Rapid	0
C-Wash. (G. W. B. Saxton)	100	100			.44		.50		Fair	0
N-Wyo. (E. C. Reed)	20	20			.50		.65		Fair	0

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HONEY WANTED

Carloads or less than carloads — Comb and extracted. Send us 8-oz. or larger sample when ready to ship, stating how cased, quantity can ship and when, and name lowest price will accept.

Honey Packers, Inc.

230 Park Avenue **New York, N. Y.**

Walter T. Kelley.

WAX

Let me work your wax into bee comb foundation. I use the latest design and most improved equipment. I sterilize and filter the wax, exert tons of pressure on my wax sheets, making them the toughest and strongest possible, mill them with the true cell base and the highest possible cell wall. I have spared no expense in equipping my plant to enable me to offer you the best product at the lowest price.

PRICES FOR MANUFACTURING YOUR BEESWAX INTO BEE COMB FOUNDATION

Kind of Foundation:	Cost of Manufacturing, Per Pound			
	10 lbs.	25 lbs.	50 lbs.	100 lbs. or more.
Medium Brood	26c	23c	20c	14c
Thin Super	32c	28c	25c	21c

Our prices include milling, papering, and packing. You will have to pay transportation charges both ways in addition. I am also in the cash market for wax. Write for my prices and shipping tags before you dispose of your wax this year. I also manufacture a complete line of soft white pine hives, supers, frames, etc. Write for free catalog.

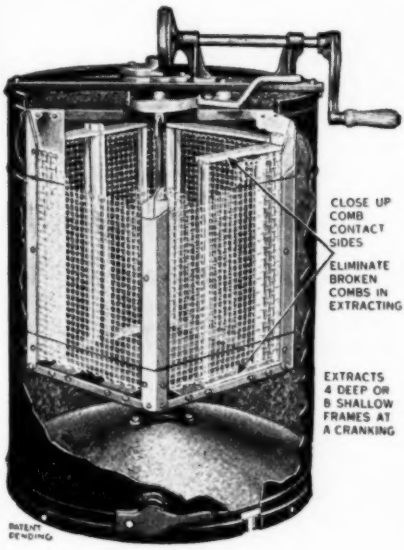
Walter T. Kelley Co., Paducah, Kentucky

12-Month Subscription with Bee Primer - - $1.00

American Bee Journal—monthly; published and edited by beekeepers for beekeepers. Full of pictures and tips on care of bees and selling of honey. **SAMPLE COPY FREE.**

Full 12-month subscription, with **BEE PRIMER**—22 pages, illustrated booklet to help the beginner—**BOTH FOR $1.00.** Combined with Gleanings in Bee Culture—both magazine and Primer, **ONE YEAR, $1.60.** This offer good only in the United States. Address—

American Bee Journal, Hamilton, Illinois


CLOSE UP COMB CONTACT SIDES
ELIMINATE BROKEN COMBS IN EXTRACTING
EXTRACTS 4 DEEP OR 8 SHALLOW FRAMES AT A CRANKING
PATENT PENDING

THE UNIVERSAL HONEY EXTRACTOR

Takes 4 deep frames of any size up to 11¼", or 8 shallow frames of any size up to 6¼", at a loading or cranking.

It has the greatest capacity in the smallest space and the least weight, capacity considered, which makes for easy cranking, yet it is the most substantial.

It will extract more honey and do it easier than any hand-power extractor on the market. Large producers average as much as 2500 to 3000 pounds per day in out-apiary extracting. The next step is to the power-driven radials.

Ten different styles and sizes of extractors to choose from, all priced as to value and performance.

Price, $32.50. Shipping weight, 130 lbs.

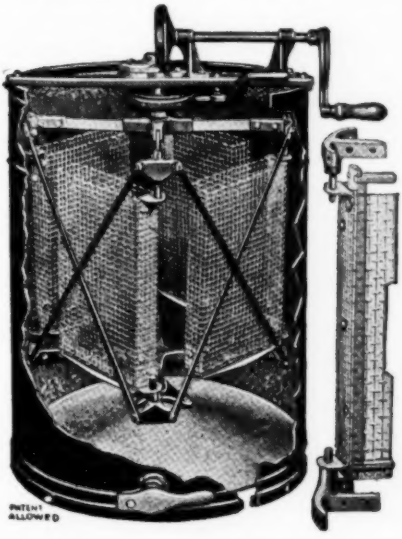
Removable Reversible Basket Honey Extractors

Our Style 15-4 Extractor shown here has 4 Removable Reversible Baskets for Stnadard 9⅛" frames, that can be lifted up and out to clean or disinfect in boiling water. The gears are always in mesh, with ratchet crank and brake, and is the easiest to turn of any 4-basket extractor on the market.

It is priced at $30.00. Shipping weight, 130 lbs.

This is only one of 10 different styles ranging from 2 to 50 frame sizes. Send for printed matter.

The 4 baskets 10" can be removed and 2 extra baskets 12" used in opposite corners.



Manufactured by

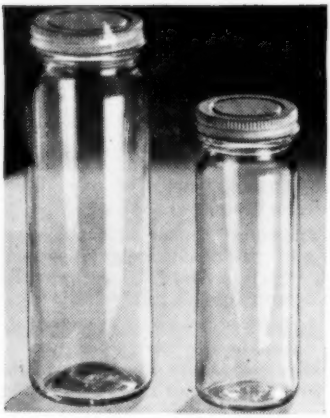
A. G. Woodman Company, Grand Rapids, Michigan, U. S. A.

Queens—Garon's Bright Italians

There's still time to get plenty of young bees before packing for winter time by using prolific young laying queens.

Price to Oct. 1st, 50c each, 15% discount to dealers.

Garon Bee Co., Donaldsonville, La.



Complete Fall List

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HAMILTON, ILLINOIS

Vol. 64
No. 9

Gleanings in Bee Culture

September
1936

Future Honey Price Trends

PROF. H. F. WILSON
University of Wisconsin

Various Factors in the Economic Status That Affect Honey Prices

The bee and honey business has assumed an important place in American agriculture because it fills a very definite place in the maintenance of many farm and village families. In its operation it is no different from many other small agricultural industries which help maintain the economic status of our agricultural population.

The available data makes it very difficult to give an accurate estimate of the value of the bee and honey industry. But let us use the following estimates, which are the best available:

Annual value of the honey crop	$ 20,000,000
Annual value of the package bee business	400,000
Annual value of the wax crop	2,000,000
Annual value of the cross fertilization of crops by bees	250,000,000
Total	$272,400,000

This is the estimated value of crops only and does not include the income value to individuals and business concerns who benefit probably to the extent of another $250,000,000, or more, annually in carrying the crops produced by bees from the producer to the consumer.

Where Our Honey Comes From and Where It Goes

Any figures that can be presented on the production of honey in the United States are only approximate and are constantly subject to revision, but they are as accurate as can be secured and do have considerable value.

These records are compiled annually by Mr. Harold Clay of the United States Bureau of Agricultural Economics and are free to all beekeepers who write for them. Just recently an estimate of the number of colonies of bees, yield per colony, and honey production for the whole United States has been compiled and published. This data covers the years 1928 to 1934.

In 1928, the estimated number of colonies of bees in the United States was 4,824,150. Since that time there has been a gradual decrease in the number, and in 1934 only 4,331,800 colonies were reported—a net decrease of 492,350 colonies.

Likewise, there has been a drop in the annual honey crop, because as you may remember, both 1928 and 1929 were bumper years in which 210,588,250 pounds of honey were reported for 1928, and 211,720,150 pounds in 1929. By 1933, because of the drouth, honey production had dropped to 148,006,950 pounds. In 1934, 155,000,000 pounds were reported so that weather conditions have evidently been better, and with a return to normal climatic conditions, we may expect increased production up to over 200,000,000 pounds per year in the near future.

Over an average period of years the five leading states in honey production are given in order: California, 7569 tons; Michigan, 6085 tons; Iowa, 5765 tons; Illinois, 4750 tons; and Wisconsin, 4695 tons. Four states produce less than 75 tons per year; these are Maine, New Hampshire, Rhode Island, and Delaware, the latter reporting 10,500 pounds, or 5½ tons, in 1934.

During 1934 we exported 2,000,000 pounds of honey and imported around 2,500,000 pounds, so a reported 155,000,000 pounds of honey were disposed of in the United States. Of this amount, only 74

cars—10,432,880 pounds of extracted honey, and 13,151 cases of comb honey, were reported in the market news letters. If each carload lot consisted of 40,000 pounds, we could add only approximately 3,000,000 pounds, making a total of 14,000,000 to 15,000,000 pounds. What became of the remaining 140,000,000 pounds of honey? This question is a hard one to answer, but the greater portion of it was undoubtedly disposed of near the source of origin, and perhaps 75 per cent of the crop was sold direct to the consumers by beekeepers or small neighborhood stores. Regardless of how it was accomplished, 155,000,000 pounds of honey were consumed by the American public between July 1, 1934, and June 30, 1935.

What Is the Market Value of Honey?

Every edible substance must be valued according to the price the public is willing to pay for it, and those values are established on the basis of supply and demand. If there be no demand, the supply quickly diminishes, but increased demand quickly increases the supply. And in every case, regardless of the supply and demand, there will be a normal usage that is decreased or increased by fluctuation in price levels. Price levels for honey will be governed a great deal by price levels of other farm commodities. The buying public has looked upon honey as something that is sweet and pure with distinctive flavors that could be used upon occasion to vary the montony of the customary home food.

During the past five years the market value of honey has varied from 2½ cents to 10 cents per pound, with an average wholesale value of about 6 cents.

There have been many complaints about the low price of honey, and many of our beekeepers have felt that the honey business should come under the Agricultural Adjustment Act, but personally I have never had this feeling because the nature of the crop makes it very difficult to improve honey prices through this channel. For basic foods, such as corn, potatoes, grains and meats, it is possible to do so. But there is nothing whatever in these regulations that can force people to eat potato chips, corn flakes, or corned beef and cabbage. Therefore, every individual company has to use the medium of advertising and publicity to bring about the use of its products. The same is true of honey. But honey, because it can be produced ready for sale by hundreds of thousands of individuals, has been subjected not to a supply and demand requirement during the past few years, but to an economic condition wherein many people would not buy honey simply because they had hardly enough for the necessities of a normal food requirement.

During the past year market values of honey have increased, but not in the same proportion as for certain other products. I believe I can see a perfectly logical reason for this condition. Honey is desirable in the diet, but not necessary, and thousands of families have not felt able to buy honey. I am surprised that there has continued to be a regular demand for honey, and every beekeeper who has produced any crop during the past four years should feel fortunate indeed in having been able to sell his honey at all, regardless of the price. There is no question in my mind but what low market values have made it possible to dispose of the honey, but it is extremely unfortunate that so large a number of the members of the beekeeping industry have not realized and appreciated the force that has maintained the demand for honey, when the normal buying public could not buy it.

On January 1, 1936, the market value of honey in the United States was from 6½ cents to 8 cents per pound, which is actually pretty fair. If there is a tendency on the part of the beekeepers to pull the price much higher for large wholesale lots, we immediately see a decrease in the amount of honey used by bakeries, because there is a definite limit to the price they can pay, and honey would quickly disappear from their picture.

What will the market value of honey be in future years? This question can not be accurately answered any more than Wall Street can tell us what the price of gold will be after the next election. But there are certain indications which furnish us with a basis upon which to estimate our future expectations. Two charts have been prepared which seem to me to give some indication. Chart No. 1 shows the weighted average prices of honey, dairy butter, eggs, and cheese in Wisconsin from 1872 to 1934, and the average wholesale price of sugar from 1890 to 1929.

After this data was collected and the graph in this chart prepared, I was rather astonished to note that the weighted av-

erage price of honey in Wisconsin from 1872 to 1932 was higher than the weighted average price for cheese. But the really interesting fact shown on this chart is that honey varies in its market values in direct relation with the other staple farm products included in this survey. There are slight variations in all of the curves, and while no two curves may be said to be exactly alike, still the general trend of all curves are the same.

In considering the weighted average of these prices, it should be remembered that both comb and extracted honey are included and, therefore, the prices for comb honey during this period of years naturally makes the weighted average price much higher, while we are at the present time thinking mostly in terms of extracted honey prices.

It may be noted, however, that the previous low price for extracted honey was in 1899, at which time the weighted average price was 7½ cents, and that at no other time was the price so low until 1933.

Another item of interest in this chart is the average wholesale price of sugar from 1890 to 1929. A study of the variations in the price of sugar will show also that in turn, the price of sugar has varied almost directly in line with the fluctuations of market values of the farm crops indicated in this chart.

Therefore, the competition between sugar and honey becomes less important, if the superior qualities of honey over sugar are properly demonstrated. If it is a question of cheap sweetening without regard to quality or flavor, the cheaper sweet may win for a time, but eventually the better product will win if properly publicized.

But even a better product has a market value limit and so, much consideration has to be given to the development of fair market values for honey that will net a

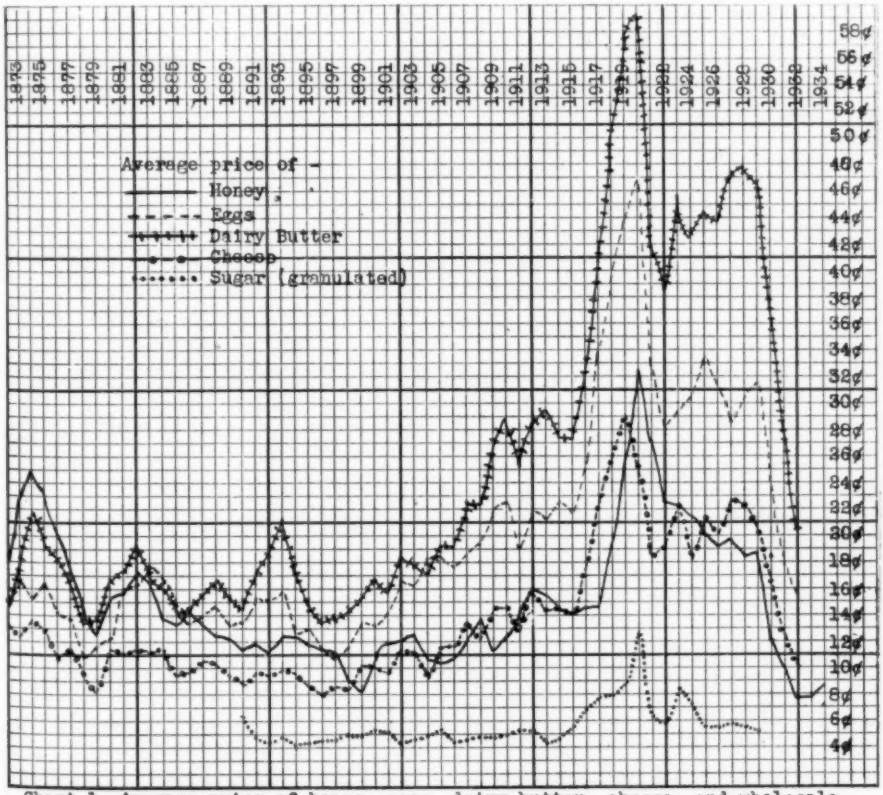

Chart 1. Average price of honey, eggs, dairy butter, cheese, and wholesale price of sugar in Wisconsin for the years, 1872 to 1934. Includes both comb and extracted honey.

XUM

profit to the beekeeper and permit the public to buy.

In 1928 and 1929, we produced 212 million pounds of honey. During those years we had what we thought were tremendous crops of honey, but if every person in the United States had eaten 1.63 pounds of honey, the crop would have been used and our beekeepers would have been prosperous and happy.

But along with the depression, we started on a toboggan slide that ripped away the seat of our trousers and left us with blisters that are just now beginning to discard the scabs. Of course, the loss of income, reduction of salaries and even total loss of jobs put most of us into spiritual despondency. And the people who had been buying our honey could not buy, so there we were with lots of honey, but no market. In 1929 and 1930, the per capita consumption was actually less than one pound, and large supplies of honey were carried over by the beekeepers.

A second chart shows the reported high and low prices of honey from 1877 to 1933. From 1887 to 1916, the high and low prices were evenly balanced.

Past Honey Prices Indicate Future Trends

Between 1877 and 1916, the prices of honey fluctuated in more or less direct relation with prices of other farm products, based on the economic conditions brought about by periods of panic and prosperity. The records I have been able to secure from bee journals and newspapers show that in 1877 the low price for honey was 15 cents, and the high price was 20 cents, but in 1879 the low price was 6 cents and the high price 10 cents. In 1886, the low

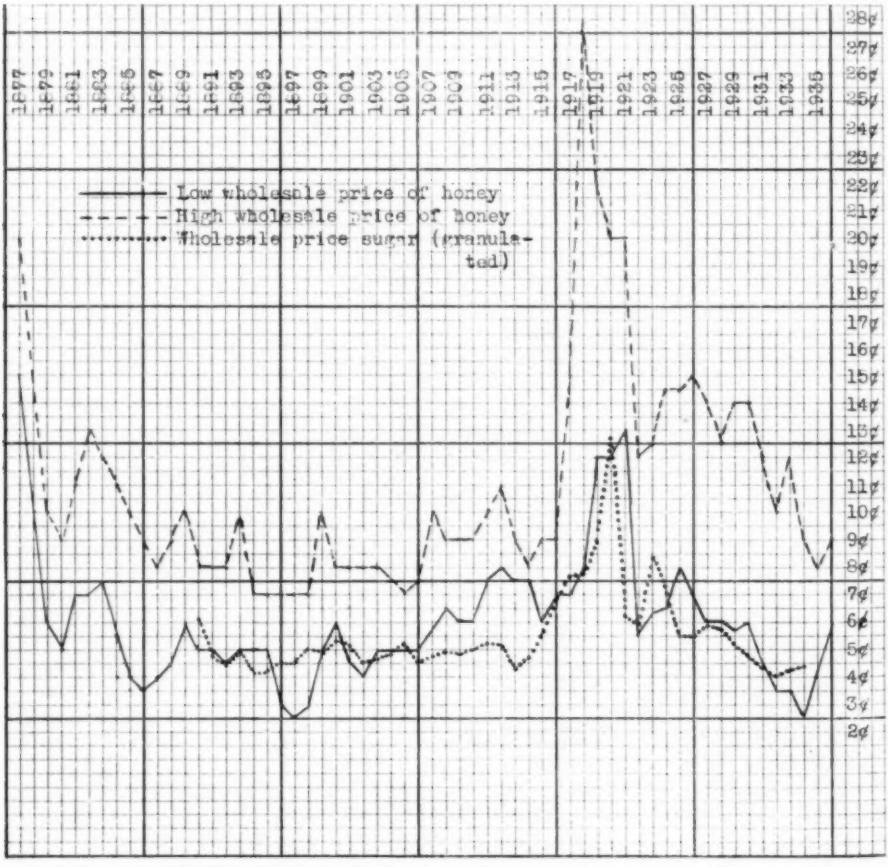

Chart 2. The high and low wholesale prices of honey from 1877 to 1936, and the wholesale price of sugar from 1890 to 1934.

price was 3½ cents and the high price 9 cents. And from then until 1917 there were only two years, 1911 and 1912, when the high price for honey was higher than 9 cents, and the low price more than 7½ cents. In 1897, the low price was 2½ cents, and the high 7 cents—probably the lowest price period for honey on record, and only slightly less than the 1933 period. This low price period began in 1896 and ended in 1899, when the low jumped to 5 cents and the high to 10 cents. Except for these periods from 1879 to 1906, the low price for honey averaged less than 5 cents and the high price around 7½ cents. From 1906 to 1917, the low price averaged in the neighborhood of 7 cents, with an average of 9 cents for the high. In 1935, we had again reached the average price of the period from 1879 to 1916.

Now then, do these figures have any bearing on the average price likely to occur from 1935 over an indefinite period of years? It is my opinion that they do, and that commercial beekeepers throughout the United States are going to be forced to build their business on the basis of 6-cent to 8-cent honey, with some years in which the price will be lower, and in occasional years higher, because of some economic disturbance of low periods in honey production.

Many of our beekeepers have not forgotten the high prices of the war period, and they are still living in the hope that such prices may come again. But only a great national war or upheaval which would produce another embargo on the use of sugar or a great depletion of the sugar supply could cause such a result.

Madison, Wisconsin.

[This article is of exceptional value and should merit the careful study of our readers.—Editor.]

A Confab

E. R. ROOT

The Opinions of a Government Man

(Continued from page 472, August issue.)

Jas. I. Hambleton, in charge of Division of Bee Culture of the United States Department of Agriculture, was asked to join in the Confab and this he has done. While he seems to favor orthodoxy in bee lore, he agrees and disagrees with both sides in the discussion. His letter, after he had read the opinions of Mr. Latham, who opposes orthodoxy, and those of the editor, who is a champion of orthodoxy, are here given to Miss McIntyre:

A Government Man's Opinion on Queen and Bee Behavior

Miss Flora McIntyre,
1334 Wellington Ave., Pasadena, Calif.

Dear Miss McIntyre:

Your manuscript, as far as the contents are concerned, is nearly enough correct as it is to turn over to the printer. I can foresee that you will have some difficulty in utilizing all the corrections and suggestions you will receive and that you will find on many issues that even so-called authorities fail to agree.

A Child's Book on Bees

It is obvious that your book is not written for scientists. Since it is a child's book, in many cases it is not possible to explain a scientific fact in such a manner that children can understand it without slightly embellishing facts or using expressions or comparisons that are not scientific. In making a translation, it is generally not possible to stick to a literal interpretation. Of necessity, the translator has to assume a certain license to make the story understandable to those for whom the translation is made. It seems to me, therefore, that in the case of many comments inserted in your manuscript, more would be lost than gained by going out of the way to adopt some of the phraseology that has been suggested.

Drones Not Lazy

Folio 1, for instance, the adjective "lazy," as applied to drones has been stricken out and the word "helpless" substituted. I think without question that it is more incorrect to say that the drone is helpless, than it is to say that he is lazy. Just because the drone does not gather honey and has no sting is no reason to imply that he is helpless. Consequently, your original term is better, and, too, it is more picturesque.

Do Queens Lay in Queen Cells?

Folio 2, second paragraph. The use of the term "hatch out" is not correct. It is correct, for instance, to say that an insect hatches from a cocoon. Nor would I quibble on the same folio in using the term worker bee eggs. It is well understood, and I do not think you need worry whether or not the queen actually lays in queen cells. The following substitution at the bottom of folio 2 is suggested to obviate the difficulty: "The golden queen may have put the eggs in the big cells herself, although I believe few profess ever actually having seen a queen lay in a queen cell. It may be that the workers put in some eggs taken from the regular cells."

XUM

Folio 3. The criticism made at the beginning of the paragraph can be met by changing the first sentence to "within three days all the eggs in the queen cells will have hatched."

Folio 4. Using the month of April and black sage in describing swarming is picturesque and should not prevent a person in the white clover region, for example, from enjoying the book. In the middle of the same folio someone objects to the use of the word "half" in describing the number of bees that leave the hive in swarming. "Half" probably does underestimate the number and it would be well throughout the book to use more qualifiers and not say that half the bees are this and three-fourths that, etc. It is better to qualify terms of this kind, which are variable anyway, with such words as "about," "possibly," "presumably," etc.

At the bottom of this folio Allen Latham questions the statement that the queen is the "most excited" of all. No doubt he is correct, but instead you could bring out the equally interesting fact that the queen does not appear to be so excited as one would expect.

Folio 10, second line. The word "many," which has been questioned, certainly can remain.

Folio 10. A. L.'s statement that most of the nurse bees went with the swarm is not based on proof and your statement is as good as his.

At the bottom of folio 10 the statement by A. L. is in the same category as which came first, the hen or the egg.

Do Bees Skimp the Food of Worker Larvae?

Folio 10. It is probably not true, except in cases of dearth, that bees skimp the food of worker larvae. On the other hand, the queen has to have an abundance of food, if for nothing else, to prevent falling out of the cell. The principal difference, of course, is that after the third day there is a distinct change in the character of the food fed workers and queens, the latter being kept on a royal jelly diet.

Folio 13. Why not say "piped" instead of "squealed," and give a simple explanation of what it means? Children use the term themselves, often telling one another "to pipe down."

Folio 32. It would be well to heed Mr. Latham's suggestion relative to sumac. If you could substitute some other late-blooming California plant from which amber honey is produced, there would certainly be no objection.

As to the specific questions in your letter of February 29:

Do Queens Lay in Queen Cells?

1. Do queens lay in queen cells? There is not much proof one way or the other on this point except that if workers ever actually transfer eggs, they must do so on rare occasions. Eggs in queen cells have all the appearance of being laid there by the queen.

Polishing Cells

2. Do bees polish cells with their tongues? Undoubtedly bees use their tongues in this process, but certainly not exclusively. The mandibles must play an important part.

Average Number of Bees to a Colony

3. Sixty thousand bees would probably be larger than the average of the four and a half million colonies kept in the United States. I would say that it is as good a figure as any.

Are Female Larvae Queens Until Changed?

4. Relative to all female larvae being queens until changed, queen and worker larvae come from the same type of eggs. Consequently, Mr. Latham's opinion is a personal one. Since there are thousands more worker bees than queens, it would be more natural, it seems to me, to consider all larvae workers until changed into queens.

Pollen Gathering

5. The process of pollen gathering is a complicated one and it would be difficult to write an accurate description that children would understand. I have suggested a change on the manuscript.

Winter Cluster

6. I quite agree with Mr. Latham's explanation of the movement of the winter cluster.

Dance of Bees

7. The dance as a means of communication has been described by Karl von Frisch and by Wallace Park. Frisch, Karl von. 1922. Ueber die Sprache der Bienen. Munich medizinischen Wochenschrift, No. 21, S. 761-782. Park, Wallace. 1923. The language of bees. American Bee Journal 63 (5):227. May, 1923. Incidentally, the dance of the bees is clearly seen in the motion picture, "The Realm of the Honeybee."

In this connection, I note that on one or two occasions you state that upon discovering a source of food a bee leads the others. Strictly speaking, such is not the case. A bee, finding a new source of food, informs the occupants of the hive to this effect through a characteristic dance. The bees are "told" that a new source of food has been found. The other bees in gradually increasing circles from the hive look for it until it is found. I did not think it was necessary to go into a lengthy discussion of this fact in the manuscript.

JAS. I. HAMBLETON,
In Charge, Division of Bee Culture.

Next follows a letter from a correspondent, Mr. Isaacson, that gives rather a new version on the question of whether a queen is a perfect female and a worker, a stunted or undeveloped female. He, like Hambleton, favors the view that the young worker larva is a worker. He shows that he is a close observer. Here is what he has to say:

The Worker Larva Just Hatched Not a Queen

Your "Confab" department is indeed a challenge. You probably will be deluged with letters on one side or the other. Undoubtedly you realize and have planned for this, so I am venturing my opinion on one subject under discussion.

I fully realize that Mr. Latham is one of today's foremost authorities on honey bees and their doings, but I can't help disagreeing—and firmly—with his assumption that the worker is an abnormal form—the queen normal.

I agree with his use of the term, "female eggs." That, I think, is the correct form. But I do think that both worker and queen are normal bees—each with its own peculiar function. Neither develops from the female egg without change—the worker by a change of food (a point I shall discuss later), and the queen by a larger cell or an enlarged one if started from a worker cell. Mr. Latham implies the first, but neglects to mention the second. Following along his own line of argument, one might just as well say that every grub is a worker unless the bees by having it in a larger cell (or constructing one around it) prevent it from becoming a worker. True, queens have been reared in a small cell, but they are not normal queens, being small and ill equipped to perform their duties. Both the richer food and extra room are necessary.

Neither the Queen Nor the Worker Are Perfect Females

Furthermore, I am sure Mr. Latham will agree with me, that neither the queen nor workers are perfect females. The queen produces the young (in that she lays the egg) but can not care for them—they will not hatch from the egg without the workers' care, much less develop. Likewise, the worker, although she can care for

the larvae, can only produce a male, and that only in certain cases. Neither are perfect but both are normal, a dual development of nature to better accomplish their purpose in colony life.

Still further, while I repeat my statement that both are normal forms, if one were to judge simply by development (often an erroneous method), arguments could also be advanced to prove that the worker is more nearly a normal type than the queen. The argument Mr. Latham implies—that of change in food for the worker—would seem to disprove his assumption, for practically all infant life has a different food than in a later stage. The very fact that the food remains unchanged in the case of the queen would seem to show her abnormal, an anomaly of nature. Her cell is also larger and there are only (at the most) fifty or sixty of these to up to hundreds of thousands of worker cells. Surely, a strange freak of nature if the abnormal were to exceed the normal in these proportions!

The Worker Not a Stunted Female

The worker bee is not a stunted form as some writers would have it. She is simply developed in a different way. The queen can not secrete milk for the larva, can not produce wax or build combs, is unsuited to carrying nectar or pollen, can not produce honey from nectar. She is far from a perfect female in the beehive; she can only lay eggs, which a worker also can, but due to her inability to mate, only unfertilized or male eggs.

The marvel of bee life is neither the production of queens from worker larvae or vice versa, but the development of both from female eggs. This dual division of the female functions in a colony is the most wonderful thing—is really what makes colony life possible. My convictions on this are very firm. Truly yours,

C. M. ISAACSON.
Middle River, Minn.

Again, another correspondent has this to offer:

Queen Cells Often Untouched

I think a "Confab" an excellent idea. Your criticism of page 15 in Miss McIntyre's book, to which you refer, urges me to give my findings. I have raised most of my own queens for many years and agree entirely with Miss McIntyre's version to the effect that a queen cell from which a virgin has emerged is often left for two or three days (I pick them off then) whilst cells being destroyed are chewed at the side, in most cases the top intact; so that one is sure no virgin has emerged.

Only once in twenty years have I had the experience you describe, when five virgins must have hatched followed by five little clusters of bees hanging around the apiary.

The Theory of Fire

I am surprised that theory of fire was new to you. This was given 25 years ago, at least in B. B. J. or the B. B. J. Guide Book. I can not look this up as my copy was borrowed and never returned. Personally I have never questioned the theory, in fact, thought it was generally accepted in the bee world.

A. W. RIGLER.
Courtenay, B. C.

As we go on the Confab grows more interesting. Some new as well as old ideas in new form are brought out. Briefly, what are some of the high lights?

The joy dance of the bee. This has been referred to by several of the writers. It is a means of communication which the bees use when something good in the field has been found. It was first noticed by Spitzner (1788), by A. I. Root (1878), and later described minutely by O. W. Park and von Frisch.

The just-hatched larva—a worker or a queen? The evidence so far seems to support orthodoxy, viz.: that she is a worker and not a queen. Now watch Latham come back with a challenge.

Does a queen lay in a queen cell? As Latham says, bees do nothing invariably. From the testimony thus far gathered it appears that the queen may lay in a just-started queen cell. She has been seen in the act. Also the bees have been seen carrying eggs and eggs have subsequently been found in embryo queen cells when the hive was queenless. From this it appears that if there is no laying queen in the hive the bees can and do move eggs into cells previously started. See June issue, 1936, page 350. In emergencies bees may vary their mode of procedure in many ways.

Many years ago A. I. Root, the founder and then exclusive editor of this journal, published a number of reports of how bees would and did carry eggs; of how when the colony was hopelessly queenless, the bees would enter another hive, steal an egg and hike back home and put it into a queen cell; of how such stolen eggs would develop normal queens. The letter below is in line with the reports received in the early days.

Do nurse bees go out with a swarm? That depends on whether the nurse bees are also flying bees. It is evident that nurse bees that can't fly will not go out with the swarm.

Does a queen lead out a swarm? Sometimes but not as a general rule. She simply follows.

Agrees With the Editor

Editor Gleanings:

In reading "A Confab," August issue, I am inclined to agree with E. R. Root in regard to bees moving eggs into queen cells.

I have a colony in a standard 10-frame hive with a queen about two months old and placed a full depth super with full sheets of foundation on top. About two weeks ago I found a nice sealed queen cell on one of the combs in the super with no other brood whatever in the super, nor had there ever been any brood in the super. Neither did I find any queen cells in the brood nest.

Now, the question is, were they trying to supersede and did the queen go into the super and lay the egg, or did the bees move the egg there?

As I had a queenless colony I gave them this queen cell and they now have a nice laying queen.

PHILIP JOHLL,
La Crosse, Wis.

Inverted Queen Introduction

C. L. N. PEARSON

A Reversal of the Usual Method of Uniting Nuclei with Colonies

Nearly 28 years ago E. W. Alexander wrote: "It has cost us so many (valuable queens) that we now seldom try to introduce a queen to a full colony."

That this knotty business of introduction has never been entirely cleared up is clearly shown by the number of articles on the subject that have appeared in the bee journals every year since.

Has it ever struck anyone that when a job is approached in a wholesale way with a machine that the whole process is generally reversed? People used to push a handsaw through wood, now the wood is pushed through a buzz saw. The tailor applied his needle to the cloth, now the cloth is applied to the machine needle. And who is to say that the job is done any worse for the inversion?

Each year at the close of the honey flow, I used to find myself possessed of two awkward entities: First, I had a large number of good young queens, carefully reared and well housed in suitable small hives, all in good shape, but none strong enough for winter. Second, I had a similar number of strong old stocks, desirable in every way except for their queens being past the age of efficiency. These I knew would have wintered, and almost as certainly let me down in the spring, when they would either have dwindled or wasted time in replacing their antiquated queens. The obvious thing to do was to bring the two together—unite them over paper, having previously destroyed the old queens. This indeed was the reason for the existence of the nuclei. The results were ordinarily fairly satisfactory. Some few of the old stocks seemed to imagine that they could do better with a queen of their own raising, although the season for rearing one was long past. Some even seemed to prefer to do without a queen at all rather than put up with the stranger. In the aggregate, perhaps I had 90 per cent do as I had arranged.

What troubled me most was that the united stocks always appeared more powerful in bees than was necessary or desirable even for winter. Strong hives for winter by all means but stocks covering upwards of twenty frames late in the fall seemed beyond all reason, especially when I knew that they would be only average colonies by the following spring. Then I thought of the buzz saw and the tailor's machine and I reversed the operation. I took the old stocks to the nuclei.

The nuclei with their young queens are arranged in full sized hives in some suitable yard on just the number of combs they happen to cover comfortably. Then the old stocks to be requeened are hauled in from the various outyards and put beside them. Next, a cool afternoon is chosen, and the bees from the old stocks are added to the nuclei, frame by frame, as many as may be required. The covers are left off the hives for 10 minutes or a quarter of an hour, exposing the bees to light and air for this period. This effects the uniting every time, without fighting or undue excitement. When they have quieted down the covers are replaced and the hives are ready to pack down for winter.

It might be urged that more work is involved in hauling full stocks than taking along nuclei, but the nuclei seldom filled the lorry to capacity and there was plenty of room for the stocks. Besides, other advantages accrued which might be tabulated as follows:

(1) The operations are best done in cool weather when all danger from robbing is past and one is more at liberty from other work.

(2) The nucleus queen is left undisturbed, protected by her own bees so that the looking up and destruction of the old queen is almost superfluous. It is the bees of the old stock that are the introduced strangers.

(3) One may give as many or as few bees from the old stock as may seem necessary for good wintering without being forced to winter over needlessly powerful colonies.

(4) The requeening, if such it may still be called, is done in one manipulation only, subsequent examinations being unnecessary.

(5) A certain amount of real increase is made, without sacrificing efficiency anywhere.

Vernham Dean, Hants, England.

[In this country outyards are seldom

(Continued on page 530.)

Canning With Honey

MRS. BENJAMIN NIELSEN

Fruits Canned in Honey Syrup Have an Unusually Delicious Flavor and a Sparkling Color

Canning peaches with honey syrup.

A tantalizing, delightful aroma comes from the kitchen and fills the house these days, something sweet and spicy. We're trying some new recipes and experimenting with new ways of doing the old favorite stand-bys.

Peaches Canned in Honey

Perhaps each year you like to try out something new to guard against monotony in the winter menu. Perhaps, too, you have often wished when company came unexpectedly, or when there just isn't time to prepare a tasty dessert that the fruit cupboard might yield something a bit unusual and festive enough for the company dessert. If so, add a few jars of honey-way peaches and pears to your company shelf and then enjoy that smug, assured feeling of preparedness.

Peaches canned in honey syrup possess a delightfully unusual flavor while retaining their rich, sparkling color. The amount of honey you will use in preparing your syrup will depend upon how sweet or heavy a syrup you prefer for your fruit. Mildly flavored honeys usually give better satisfaction than the dark, strong flavors. We like ours canned in a syrup made of one cup of honey to each cup of water. Bring to a boil, skim if necessary and proceed in the usual method you prefer for canning. Should you choose to process them in your oven be sure your jars are not filled to the top with syrup. If filled to overflowing, the liquid bubbles out, is lost and the exposed fruit at the top may turn an unpleasant brown. Syrup to within two inches of the top gives best results.

Sliced peaches require a bit more labor in the preparation but are indeed worth the effort. They go much further in serving. Select uniform, choice fruit. Work quickly with a small amount of fruit, keeping the slices under water until they are packed. The cold-pack method is nicer for sliced peaches as they remain firm and unbroken.

Pears, because of their high food value, appeal to thrifty housewives. They should be well ripened. Those not ripened may be kept for several weeks, if wrapped in paper and stored in a cool, dry place. This makes it possible to spread the work over a longer time, possibly until cooler weather, when one is more eager to try new and tasty combinations.

Canning Pears Whole With Honey

Try canning whole a few choice pears for an attractive and wholesome dessert. Select big pears, the larger the better, peel, but leave on the stems. Place in slightly salted water to prevent discoloration until a number are ready to drop into boiling water. Allow to cook until nearly tender, then add honey in the proportion of one cup of honey to three cups of the water in which the pears have been cooking. Cook until tender; place very care-

fully in hot sterilized jars; fill to overflowing with the hot syrup and seal.

A Dessert That Is Always Available

When ready to prepare your dessert, open a jar of these pears, and place them with the syrup in a saucepan, adding enough water to cover them well and one-third cup of honey for each added cup of water. Then add commercially prepared, red-colored, strawberry flavored liquid to

Watermelon marmalade.

make the syrup a deep red and give a decided strawberry flavor. Any strawberry juice you may have bottled after canning strawberries is excellent for this purpose, but add red liquid vegetable coloring, too. Bring syrup to a boil and simmer gently for about ten minutes. Transfer pears and syrup to a bowl, cover and let stand in refrigerator overnight or for several hours. Serve chilled in a nest of whipped cream.

Watermelon Marmalade

Watermelon marmalade will delight the family. For this you will use: Eight cups chopped watermelon rind, four green apples, chopped fine, two lemons, two oranges, six cups sugar and one cup honey.

Chop watermelon rind, discarding hard green part. Peel and chop apples. Chop oranges without peeling. Extract juice of the lemons. Mix ingredients and add ¼ teaspoon salt, ¼ teaspoon ground nutmeg, ½ teaspoon ground cinnamon and ¼ teaspoon ground cloves. Let boil slowly one hour or until thick. Seal. Makes twelve large glasses.

Garden Medley

Garden Medley with its attractive color and toothsome flavor will add distinction to the most commonplace meal. Run through the food grinder equal parts of sour apples, sweet mango peppers, red beets, green tomatoes, cabbage and onions. Measure after grinding and for each two quarts, add ¾ cup of honey, one teaspoon each of cinnamon, cloves, pepper, celery seed, chili powder and dry mustard. Salt to taste and cover with cider or honey vinegar. Boil for 20 minutes in an enameled kettle. Pack in sterilized jars and seal at once.

Honey Flavored Tomato Pickles

Fall usually finds us with an abundant supply of green tomatoes. This honey-way pickle makes good use of them. You will need: Three pounds of small green tomatoes, two pounds of crushed pineapple, two pounds of sugar, four cups of honey vinegar or mild cider vinegar, one cup mildly flavored honey, one cup pineapple juice, a little mace, one teaspoon stick cinnamon, one tablespoon allspice, one tablespoon whole cloves, two tablespoons of yellow mustard seed.

Cut the tomatoes in rather thick slices and add the pineapple. Mix sugar, vinegar, honey, and pineapple juice; add spices tied in a thin bag. Bring to boiling point, and pour over the tomato and pineapple mixture. Cook until tender and clear and put into sterilized jars. Boil the syrup down until it is thick enough to coat a spoon. Pour over the tomato and pineapple mixture packed in the jars; fill to overflowing and seal.

Aurora, Nebraska.

• • •

(Continued from page 528.)

hauled in to the home apiary in the fall, unless all colonies are wintered in a large cellar at the home plant. Therefore, Mr. Pearson's plan of requeening would hardly fit our system of beekeeping. However, his method of uniting colonies containing old queens with nuclei containing young queens, sounds feasible, especially when uniting is done rather late in the fall. We would suppose that young queens would be retained and old queens killed.—Ed.]

Government Bee Work

E. R. ROOT

Activities of Government Men in the Apiaries of J. W. Newton at Baton Rouge, Louisiana

In our last issue I showed snapshots of the personnel and work being done at the Government Bee Culture Laboratory in collaboration with the University of Louisiana, at Baton Rouge.

At this time I shall attempt to show by more pictures the work done particularly by Dr. E. Oertel in the apiaries of J. W. Newton, or the Louisiana Southern Bee Farms, Baton Rouge, Louisiana.

Mr. Newton, former president of the American Honey Producers' League, is one of the most extensive producers of package bees and queens in the South. The Louisiana Southern Bee Farms have kindly offered the facilities of their apiaries to Uncle Sam and to the state of Louisiana. The pictures taken by me with the legends explaining, tell the story and it only remains for me to bring out some special features of the work.

There could scarcely be found anywhere in the United States more up-to-date or more centrally located yards for the scientific study of the problems of the queen breeders and package bee man than in the Newton Apiaries. They are midway between the package men of Texas and of Mississippi, Alabama, and Georgia. Outdoor work can be carried on there nine months of the year. The close co-operation of the Baton Rouge station, representing the South, and the one located at Laramie, Wyoming, representing some of the best bee country in the North, is bringing results that are of immense practical value to all beekeepers of the country. A study of the pictures in this and the last issue will show what these values are.

Dr. Oertel is also working on honey plant work. The study of white clover, for example, which is very abundant in Louisiana, reaching along the banks and levees of the Mississippi River for hundreds of miles north and south of Baton Rouge, can be conducted here as it could nowhere else.

The large cut below, also cuts on page 396, July Gleanings, will give some idea of the density of its growth. White clover, not a great honey plant in the South, comes just at a time when it can be of the most value to the package and queen men. The flow is light and continuous—just right for queen rearing.

Of great economic importance is the value of this vigorous growth of white clover to bind the banks and levees of the "Father of Waters." After new levees are built or old ones made higher, white clover seed, possibly washed down from the North, immediately springs up

There are hundreds and hundreds of miles of beautiful white clover on the levees of the Mississippi River. The growth is sometimes 18 inches deep. The view was taken opposite one of Mr. Newton's bee package aparies.

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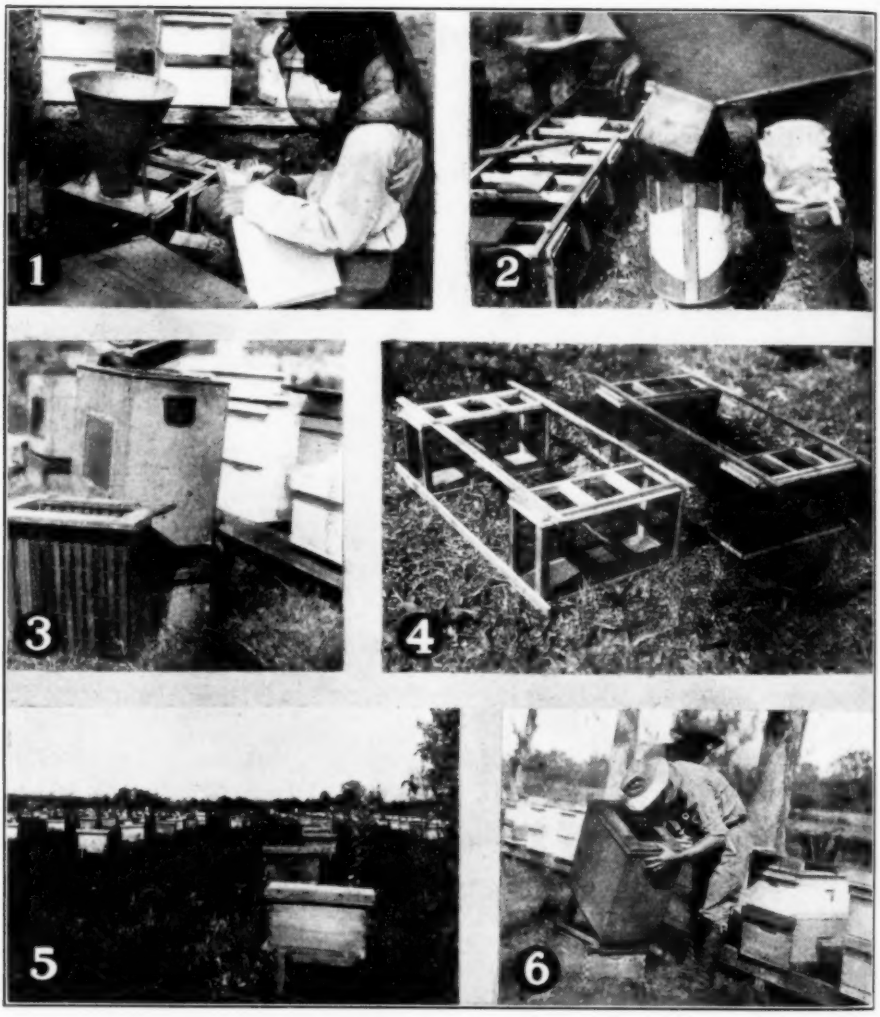


Fig. 1.—Dr. E. Oertel, of the Bee Culture Laboratory at Baton Rouge, La., (see page 459, of our last issue), taking notes on the shipments of package bees at one of the package yards of J. W. Newton, former president of the American Honey Producers' League. These records are referred to the Bee Culture Laboratory at Laramie. Checking at both ends of the shipments enables the government men to learn the causes of "bad order," or of death or supersedure of queens. Figs 2 and 4 show the type of four-post cages used for packages by Mr. Newton. Figs. 2, 3, and 6 show a type of receiver or shaking box into which frames of bees are shaken to be later discharged into a cylinder cage resting on weighing scale. When this cage is filled to the two or three pounds, it is in turn emptied into a funnel as shown on one of the cages shown in Fig. 1. In Fig. 3 is shown the skeleton frame work box made of two queen excluders with ends and bottoms of wire cloth which when placed into the shaking box shown in Fig. 6, receives the bees. The bees filter through the excluder into a compartment below. Before the men shake, they first look over the combs to see if they can locate the queen. Failing to find her they shake. If they do not see her on any of the combs, she will be found in the skeleton box excluder. One of the men in Fig. 6 is looking for her. If they did not see her on the combs before shaking she will be caught on the excluder.

Fig. 2.—Here we see the operator turning a crank which forces the bees out of the shaking box into the container about as one would turn a crank to let flour out of a flour sifter.

In Fig. 5, we have one of Newton's mating yards consisting of over 1200 nuclei. If the levee should ever break, the bees would go floating down the Mississippi never to return.

Figs. 4, 2, and 1 show the four-post cage for shipping two and three pounds of bees. This type is used exclusively by J. W. Newton and by the majority of package shippers in preference to the cage with solid wood ends. If a spell of extreme hot weather comes on, during shipment, the open end, or four-post cage, affords better ventilation for the bees than where the ends are solid, so says both Dr. Whitcomb and Dr. Oertel. The solid end cage is stronger and at the same time affords a place on which to paste printed instructions or tack on an address tag. See Fig. 4, page 464, of our last issue.

and binds the soil together. Without this soil-binder heavy rains or winds would soon nullify the work of Uncle Sam and the state of Louisiana.

The Termites and How They Destroy Brood Frames and Bottom Boards

One of the pests of the Southland, and beginning to show up in the North, are

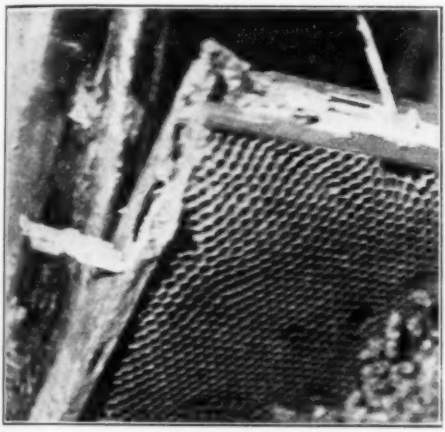


Fig. 7.—The termites eat out brood frames and hives in the South. The same pest will riddle the inside of timbers of a frame house until finally they will give way.

the termites. They will not only eat the centers of floor boards and timbers of wooden houses, but they will cut up all kinds of capers with good bee supplies in the form of bottom boards and brood frames. Their work is insidious and undiscovered. They, like the bad men of the Bible, are "lovers of darkness rather than light." They will riddle the brood frames and hive parts with tunnels just under the surface of the wood. Then when the body of the wood out of sight has been eaten out, the flooring and timbers of houses give away, and brood frames without previous notice fall to pieces.

Fig. 7 is a sample of a brood frame taken from one of the Newton yards. The boys brought it to me. Did I see anything wrong? "No," I said. Then with their finger nails they began to pick away the shell of wood in the corner of the frame. The Graflex tells the story only inadequately.

If northern purchasers of package bees think his southern brother is charging too much for his bees, he should know that there are not only termites but the Argentine ant, mosquitoes, bee moth, lizards, and venomous snakes, and not a little bad weather, cold and chilly at times, mud, and plenty of it, with trucks mired in it. If you of the North think that the southern shipper has a "snap," just spend a few days with them as I have done. They earn every penny they get.

The Government is trying to mitigate some of these difficulties. In these days when Uncle Sam does everything wrong, we beekeepers, North and South, should take off our hats and say, "I thank you." Mr. Hambleton, and all your fellow workers, we want you to know we beekeepers appreciate what you are doing for us in helping us to solve our problems.

Beekeeping in Pennsylvania

EDWIN J. ANDERSON
Extension Specialist in Beekeeping, State College, Pennsylvania.

A State of Diverse Soils, Honey Flora, and Beekeeping Possibilities

Pennsylvania is divided into several distinct beekeeping areas, as determined by the time and variety of the different honey flows. There are three larger areas; the area in which buckwheat honey is produced, including the northern counties of the state, and the higher Allegheny Plateau area extending south through Jefferson, Indiana, Cambria, Somerset, and Bedford counties to the West Virginia-Maryland line. Alsike and Dutch clover, basswood and wild flowers also produce a surplus of nectar in the buckwheat area. Some of the wild flowers producing a surplus listed in their order of relative importance are: goldenrod, wild aster, basswood, silver-rod sumac, mountain honeysuckle, and milkweed. Other wild flowers

also yield nectar in this area, but it is seldom that a surplus is obtained from any of them.

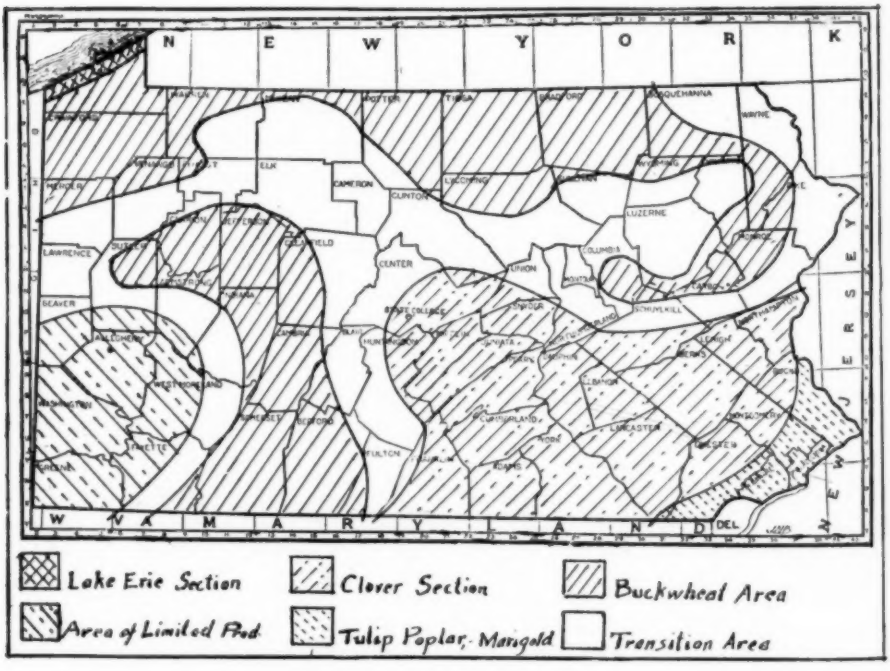
A large per cent of the honey produced in the buckwheat areas is extracted with the possible exception of the area around Indiana and Cambria counties. A fairly large per cent of the extracted honey produced in late fall in the northern tier counties crystalizes with a very fine grain so that it compares favorably in texture with processed honey. This is due to the practice of storing the combs wet without letting the bees clean them out and to the nature of the honey gathered from the goldenrod, wild aster and silver-rod blossoms.

A 1000-Colony Beekeeper

Buckwheat honey offered for sale in large quantities is produced principally in Crawford, Tioga, Lycoming, and Bradford counties, where beekeeping is practiced on a commercial scale. The largest producer in this area is Harry Beaver of Troy, Pennsylvania, who owns and operates over 1000 colonies. It might be proper to digress a bit from the principal topic of discussion and say a few words about our largest beekeeper. Mr. Beaver has kept bees in Cuba and in other sections of Pennsylvania as well as at Troy. He operates twenty-one outyards and has a small honey-house located at each yard. When extracting season comes around a truck is loaded with a number of empty kegs or sixty-pound cans, a barrel for cappings, veils, other incidentals, and one or two helpers. Mr. Beaver, with his helpers, drives to the last apiary where honey was extracted and loads on in addition, the extractor, a gas engine honey pump, and tanks. Then they drive to the apiary where the extracting is to be done. The honey is taken from the bees, extracted, strained and placed in the containers and loaded on the truck all in one continuous operation. When night comes the job is completed so each day finds the crew in a different apiary. The barrel of cappings is taken to the central plant each evening and there the surplus honey is separated from the wax in a centrifugal extractor. Only the heavier extracting equipment remains at the outyard when the truck leaves. It is picked up in the morning and taken to the next apiary.

A Serve-Self Roadside Stand

Heating, liquefying, grading, bottling,


N E W Y O R K
W E S T V I R G I N I A
Lake Erie Section
Clover Section
Buckwheat Area
Area of Limited Prod.
Tulip Poplar-Marigold
Transition Area

This chart shows the principal honey-producing areas of Pennsylvania.

and work of this type is done at the central plant after the entire crop is extracted. Mr. Beaver ships honey by the carload. He does a large jobbing business, and sells considerable honey by parcel post. He has in addition a serve-yourself roadside stand where customers stop and take away quantities of honey without forgetting to leave the change. His wife and daughter have proven to be a real help in marketing, especially the comb honey. Mr. Beaver with one or two helpers does a tremendous amount of work in one day. He takes time off, however, to travel and go fishing; also takes an active part in the life of his community.

Sweet Clover Gaining Ground

The second large area is made up of limestone valleys of southeastern Pennsylvania. In this area farming is well developed and the clovers are much more common than in the first area mentioned. The surplus crops of honey are obtained largely from alsike clover, Dutch clover, sweet clover, locust, tulip poplar and wild asters. Red clover and alfalfa are now grown in larger acreages than in former years so that the surplus honey flows from the other clovers are not as large or as dependable as they were in former years. Sweet clover, however, seems to be establishing itself on waste land and in that way helps to make up for some of the loss in acreage of alsike and Dutch clover. Black locust grows commonly over this entire area along the fence rows in small plantings and to a limited extent in the forests where conditions are favorable. Honey from black locust is light in color and of fine quality, but a surplus is obtained only during an occasional year. The locust blooms before alsike clover at a time when weather conditions are not favorable and the blooming period lasts for only a week or ten days. Tulip poplar also produces a surplus in southeastern Pennsylvania. It is one of few flowers that yield a surplus of dark honey.

Comb honey is still produced exclusively by a large majority of the beekeepers of the clover section. This type of honey is produced largely because of the high quality of sections that can be produced there and because of the keeping quality as well as the light color of the honey. The production of extracted honey is increasing, however, as it is in most of the other sections of the state.

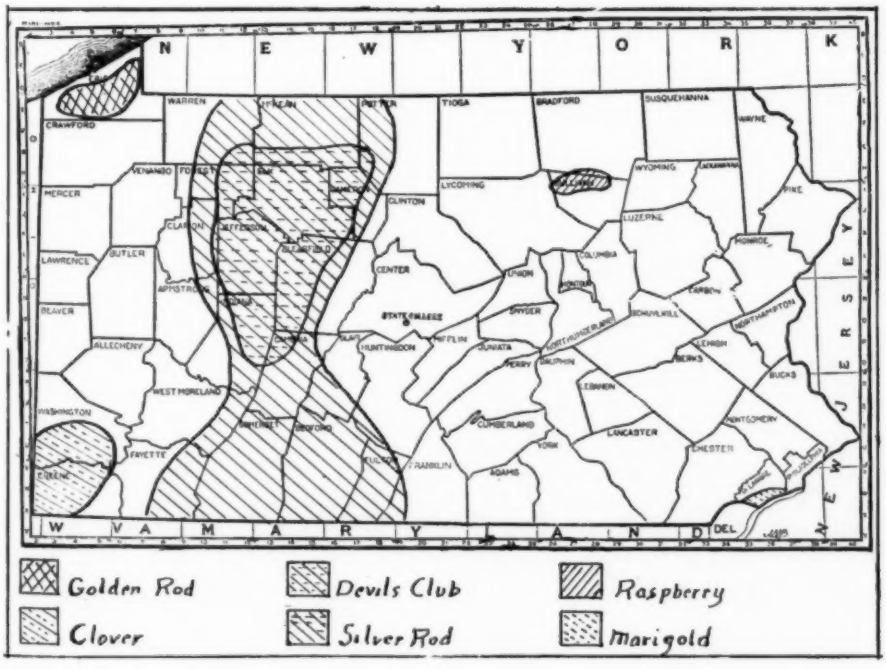


Chart showing area of some unusual honey sources in Pennsylvania.

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There is fortunately a rather light infestation of foulbrood in the clover section as compared to other areas of the state. A number of the counties have but a few limited areas of infestation as compared to the buckwheat sections where the foulbrood may be found in nearly all parts of most of these counties. It might be added here that the number of deputy inspectors employed in Pennsylvania each summer has been reduced from fifteen in 1932 to about seven or eight in 1933 and 1934. This reduction of the inspection force is indeed unfortunate for the industry because of the large area of the state and the prevalence of the disease over most of the area. The size of this undertaking requires the larger number of inspectors since it is only through a thorough inspection of a fairly large area annually that the disease can be brought under control.

The third large area of the state is more or less of a transitional area where the various flowers mentioned may be found and under favorable conditions produce a surplus of honey. The production per colony varies greatly for different sections of this area. This is true also but to a less extent for the buckwheat and clover sections. The bees in any one location in a county may produce a large crop of honey while bees less than ten miles distant may produce relatively small crops. These variations are due to differences in farming practices, soils, moisture content of soils, altitude, and depth of soil, all of which are found in their extremes in Pennsylvania. There are only a few large beekeepers in the transitional area. Elk County is one exception. An abundance of wild flowers added to a limited supply of clover and buckwheat make this a favorable county for beekeeping on a large scale.

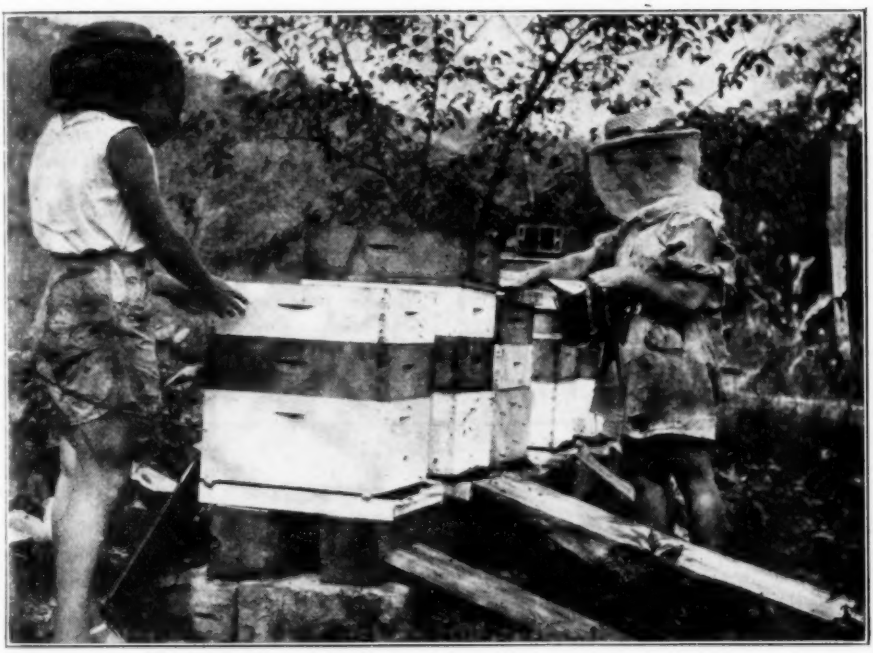
Some Exceptional Honey Regions

There are a number of exceptional areas in Pennsylvania. One is the section around Elk, Jefferson, and Clearfield counties, where bitter honey is produced from prickly ash or Devil's Club blossoms. This flower blooms as a big white cluster during August. It yields a surplus of nectar only during an occasional year when the surplus may amount to 75 pounds per colony. The purple colored berries of this plant are eaten by birds and are much sought after as food by bears. The deer, since they have become plentiful, strip the bark off the stalks and kill many of these plants during winter.

There is an area in Erie County where goldenrod is exceptionally abundant and produces large crops of a fine flavored honey. During September, 1934, the stronger colonies gathered 150 pounds of surplus from this flower. The honey is golden-yellow in color about the same color as the endless fields of this flower when they are in full bloom in fall.

Marsh marigold and Spanish needle produce large crops of a dark yellow honey during part of August and September. These varieties of bloom are found in large masses only in the marsh land along the Delaware River. The honey is strong

A group of 4-H club boys watching a demonstration on the control of American foulbrood.



Two 4-H club girls of Carbon County, Pa., who are not afraid of stings.

in flavor but sells readily in the local markets. About a year ago the levees broke, flooding large areas of land in the marigold section. The plants were killed in the flooded areas and in many cases the bees were killed or washed away.

Silver-rod is a little known plant found commonly in the wooded land of the Allegheny Plateau between McKean and Fayette counties. This is the last flower to produce a surplus in fall. It blooms from the middle of September to the time of the first killing frost. The honey from this flower is light in color and has a good flavor. It helps to improve the quality of goldenrod and wild aster honey which are gathered about the same time.

Beekeeping Practices Improving

Beekeeping practices for the state have been improving rather noticeably for a number of years. Local extracted honey is bottled and sold in many sections now where it was not a few years ago. Six modern bottling plants have been built during the past two years. These plants contain dry chambers for heating honey as well as equipment for straining and bottling so that a high quality of honey is sold by the owners. Comb honey is now sold largely in cellophane or cardboard containers. Apple and cherry growers are depending more and more upon the bees for pollination. Many fruit growers own over a hundred colonies of bees where they had none or a small number of neglected colonies a few years back. In many instances they are making a profit from the honey produced. However, Pennsylvania has not been keeping step with this growth from the standpoint of research, but has depended upon other states for new information obtained through controlled experiments. An experiment station is needed to study many of the problems that continuously confront the beekeeper and fruit grower. The value of honey and wax produced amounts to nearly $1,000,000 annually while the indirect value of bees for pollinating fruits and vegetables amounts to $20,000,000 or more. An industry of this kind has only one possibility for a laboratory to study its problems and that is at its agricultural college. There are 30,000 beekeepers in Pennsylvania and no one of them can afford to build a laboratory of his own for research.

State College, Pennsylvania.

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How to Get to the San Antonio International Conference of Beekeepers

Fred Muth and Charlie Reese have given up going to the International Congress of Beekeepers at San Antonio by aeroplane—costs too much. Now they are working on the proposition of a special Pullman car of beekeepers that will cost, Pullman and all from, say, Cleveland to San Antonio and return, for about $75 per person. Those whose time is limited and can not go by auto should write either to The Fred W. Muth Co., Cincinnati, Ohio, or to Chas A. Reese, Department of Agriculture, Columbus, Ohio.

The cost for driving an automobile to and from San Antonio will run around a cent and a quarter to a cent and a half for gas and oil, with a Chevrolet, Ford, or Plymouth. The distance will be about 1500 miles from Cleveland, or less mileage from points southward or westward.

Oftentimes an owner of a machine can take two, three, or more passengers and divide the expense for gas, oil, and depreciation between them. With depreciation added, the entire cost for gas, oil, and stopping overnight at a tourist house will be about three cents, or one cent a

(Continued on page 572.)

Texas Beekeepers' Association Activities

The Texas Beekeepers' Association held its fifty-ninth annual meeting at College Station, July 20 and 21. A better attendance than usual made the meeting one of interest and a majority of those present were commercial beekeepers in contrast to the usual attendance which consists largely of owners of a few colonies and those who expect to become beekeepers.

A paper by Roy Weaver, Navasota, in which he championed the Caucasian bee brought out a long discussion by beekeepers who years ago tried the Caucasians and later turned to the dark colored three-banded Italians.

Edward Burleson, Waxahachie, gave an excellent paper on honey pack. He perhaps sells more honey and comes in contact with more honey buyers than any other one man in the state. He gave his observations on and experiences in the selling of honey and gave many pertinent suggestions relative to the condition of honey, the kind of containers, and the kind of labels, as factors in the sale of honey.

T. P. Robinson, Bartlett, who has kept bees in Texas for as many consecutive years as anyone, now a commercial beekeeper, gave his opinion as to the future of beekeeping unless some regulations relative to the use of poison sprays and dusts were made.

Other prominent papers were presented by Dr. Don O. Baird, Sam Houston State Teachers' College, Huntsville, in which he described the apiary exhibit at the Dallas Centennial Exposition; and H. E. Graham, Cameron, who discussed the amount of feed to be used in the shipping of package bees, a subject which brought out a long and interesting discussion. Among other papers of interest was one by E. T. Edwards, Grandview, who told of a concrete and brick extracting plant which he had just completed. He described the operation of his plant and told the beekeepers of a number of devices which he had adapted from machines used in factories where substances similar to honey are handled.

The business meeting which ended the sessions was very interesting in that the beekeepers became enthusiastic over their responsibility in properly caring for the visitors to the International Beekeepers' Conference, November 22-25. A steerage committee to represent the Texas Beekeepers' Association was appointed and presented a program of the activities. Committees were named to be present and to work with the committee already named by the American Honey Producers' League, Honey Institute, and Southern Beekeepers' Conference. These committees are subsidiary and are to work only under the direction of the committee which was appointed in March. In addition a committee to raise incidental expenses for preliminary arrangements was named. Roy Weaver, Navasota, was elected President; J. Claude Wilson, North Pleasanton, Vice-President, and the Secretary-Treasurer retained.—H. B. Parks, Secretary-Treasurer, Texas Beekeepers' Association, San Antonio, Texas.

Dr. E. F. Phillips

Among the most outstanding men in scientific bee culture, if indeed he does not surpass the entire field both in this country and Europe, is Dr. E. F. Phillips, professor of bee culture at Cornell University, who for many years was the head of bee culture investigation work in the Bureau of Entomology, Washington, D. C.

He has been a most prodigious worker himself and a driver of his help, as shown by the number of bulletins and papers he has turned out, and which have been published in this country and Europe.

Dr. E. F. Phillips, as the senior editor caught him at his desk—the man who is regarded as an authority on the chemical and physical properties of honey.

His book, "Beekeeping," of which two editions have been published, is both scientific and practical. His work on the general science of honey is given in full in the A B C and X Y Z of Bee Culture. Nothing in the English language has ever equaled it.

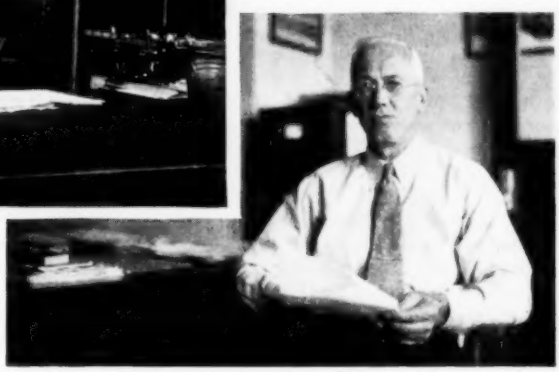
In the line of actual achievement, while in Washington, Phillips, with the help of his assistants, cleared up the bee disease problem, showing that there were two distinct major brood diseases. One he called American and the other European. The last named, a terrific pest in New York many years, is now a pest no more because he and his assistants were able to show the cause and prescribe the cure.

Again, Phillips with the help of Geo. Demuth, cleared up the wintering prob-

(Continued on next page.)

Geo. H. Rea

Mr. George H. Rea, according to Dr. E. F. Phillips, is the best bee extension man in the United States. Those who know George, and have seen and heard him in action, especially those who know his previous history of bee work all over the United States, will not challenge this statement. Everyone knows him as "George." Always affable and likeable, he carries a perpetual smile on his face, a smile that is both contagious and winning. He is an easy speaker with a voice that will carry with a large audience, even outdoors.



Below: Geo. H. Rea, of New York, whom Dr. Phillips says is the best bee extension man in the United States. His perpetual smile temporarily vanished when the editor pointed his gun at him.

He has all the qualities of a diplomat, so necessary in a bee inspector. On one occasion when he was state bee inspector for Pennsylvania, he asked me to go with him to see a man who threatened to use a pitchfork on any man who came to inspect his bees. George, with the blandest and most winning smile, told the chap he had come to "help" him with his bees. There was no bee disease but the bees were needing room. He told him to put on supers. The pitchfork man thanked him and asked him to "call again." His is just the type of an extension personality that convinces one that he thoroughly knows his subject, both from the standpoint of science and from actual practice.

From childhood up he has been a lover of insects. As a boy he captured nests of

(Continued on next page.)

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DR. E. F. PHILLIPS

lem by recording the temperatures of the honeybee winter cluster. Guesses of former days gave away to exact figures.

There were a number of minor problems for which we have not space here to enumerate.

In later years Phillips and Dr. Dyce worked on the problem of the crystallization of honey—how to make a honey cream.

Within the last year or two we had almost lost sight of him at conventions and by the absence of his usual articles in the bee journals. What became of him? While he has been keeping up his interest in bees he has turned out to be an ardent Rotarian.

Phillips as an Outstanding Rotarian

Two years ago, after holding various minor posts, he was elected President of the Ithaca Rotary Club, and at the end of that term of office he was elected Governor of the 28th District of Rotary International, a district comprising sixty-six clubs in central New York, eastern Ontario, and western Quebec. Toward the close of his term in the governorship the Rotarians of the District held an enthusiastic conference at Rochester, which was attended by 1198 persons, and at that time they presented Phillips with a beautiful Hamilton watch. This was engraved, "Governor Frank Phillips—An appreciation from the Sixty-six Clubs of the Twenty-eighth District, Rochester, May 19, 1936." Now Phillips has been given a still greater opportunity for service since he has recently been named Chairman of the International Service Committee of Rotary International, a position which carries with it membership in the Aims and Objects Committee, the general steering committee of the entire organization. Both committees are to hold their first meetings in Zurich, Switzerland, the week of September 14, so Phillips plans to spend a week-end abroad, returning in time for the opening of the University. He hopes to attend the International Assembly and International Convention, both of which will be held somewhere in Europe early next June.

These Rotary contacts will enable Phillips to make also contacts with more beekeepers, many of whom he has met on previous visits.—E. R. Root.

GEO. H. REA

bumble bees and housed them in small boxes for study. He secured his first colony of bees from an uncle when sixteen years of age, and then began his ABC's with bees, using as his guide, A. I. Root's A B C of Bee Culture.

He was one of the organizers of the Pennsylvania State Beekeepers' Association in the days when beekeeping was hardly known as an industry or a science. Naturally he was the first state apiary inspector for Pennsylvania, receiving his appointment in 1907. There were no funds appropriated, so his first work was done for nothing. In 1912 sufficient appropriation was granted to carry on the work.

In September, 1916, he was appointed the first permanent extension specialist in apiculture for the United States Department of Agriculture under Dr. E. F. Phillips, then in charge of the apicultural laboratory in Washington, D. C. He was sent immediately to North Carolina for one year. There he left a record for achievement. He actually organized a convention of five hundred box hive men to learn modern beekeeping. It was a great success. So great that it paved the way for the fine extension work that is now being carried on by Mr. C. L. Sams, Raleigh, North Carolina. He was later, in 1918, assigned to the state of New York and for over two years worked in that state when the state of New York took over the work direct.

Late in 1921 he was offered and accepted the position of beekeeping extension work in Pennsylvania. He thus became the first extension specialist in apiculture for that state with headquarters at the Extension Division of State College. He was in that position for three years and finally accepted a position with The A. I. Root Company of Medina for about two years. Later on he went to Ithaca, New York, to take up general extension bee work under Phillips, which position he has held ever since.

Possibly no man was ever better trained in practical bee work than Professor Rea. He has had considerable experience in New York and the state of New Mexico, where he operated 1250 colonies. His work in the state of Ohio with the Root Company, work in Pennsylvania, and later in New York, has eminently qualified him to teach better beekeeping, the position he now occupies.—E. R. Root.

From the Field of Experience

WINTER HIVES

Insulating for Winter Protection of Bees Seemingly Satisfactory

As experimentation on wintering bees continues new materials are being found which eliminate the trouble and necessity of winter cases and packing and make the problem of wintering an easier one. In this climate and altitude the winters are severe and insulation must be of the best to prevent losses, but outdoor wintering has been successful as described by the author in an earlier publication. (Amer. Bee Journ., Oct., 1933.)

Two years ago my attention was called to a new type of wallboard with good insulating properties, which is sold under

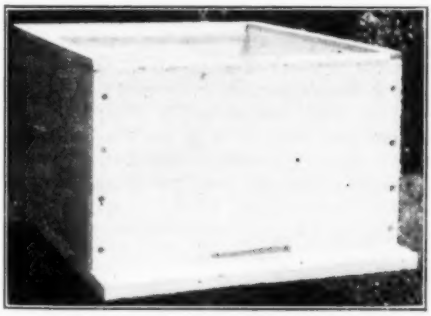


Fig. 1.—Insulite hive.

the trade name of Insulite and may be obtained in one-half, three-fourths, and one-inch thicknesses. My experiments used the one-half and one-inch kinds. A square of the one-inch thickness was used to make two hives as pictured in Fig. 1. Construction consisted of mitred corners and the placing of a three-fourths by three-eighths-inch strip of wood around the entire top to strengthen it and make possible the loosening of the hive or super above. All dimensions are for a standard ten-frame hive. The entrance can be made any size desired.

Five other hives were constructed, using one-half inch Insulite with a half-inch air space as in Fig. 2 over a standard hive. A piece of Insulite was also put under the bottom board as Fig. 2 indicates. The entrance can be closed to the desired size with a strip of the Insulite tacked to the front. The hives made with the air space and one-half inch material are heavier but more rugged.

A cover of one-half inch Insulite was used over both styles of hives. In the center of the cover a hole three by two inches was cut and a screen placed over it to permit the passage of moisture up into a super of sawdust and shavings. The top

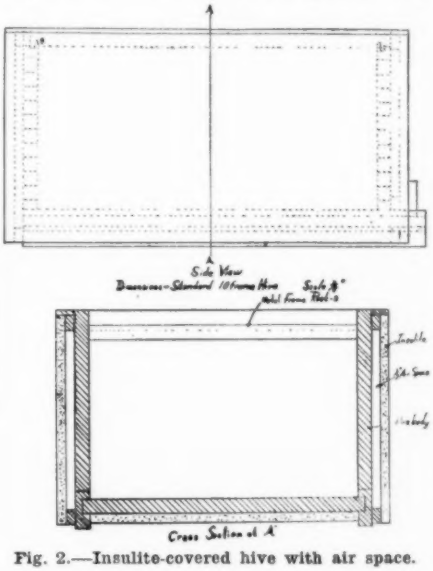


Fig. 2.—Insulite-covered hive with air space.

cover—a regular hive cover—was lifted about one-eighth inch to permit the escape of excess moisture from the absorbent materials.

All colonies put into these hives wintered better than those packed with sawdust or leaves.

The advantages in the use of such hives are: (1) transfer of bees to winter hives may be made any time after the honey flow or the winter body as in Fig. 2 can be used as a permanent body during the summer; (2) the time spent in putting on a super of absorbent materials is only a fraction of that necessary for winter cases and packing; (3) hives may be painted black to absorb heat, thus permitting cluster to move to new stores; (4) this type of hive eliminates the necessity of find-

XUM

ing dry and suitable packing materials. Since the temperature remains low only a single hive body is used in wintering. Taking all of these into consideration there is a decided advantage here in favor of the insulated hive.—C. R. Walker, Associate Professor of Biology, Western State College of Colorado, Gunnison, Colorado.

THE MENACE OF FIRE

Extreme Carefulness Needed to Prevent Loss from This Hazard

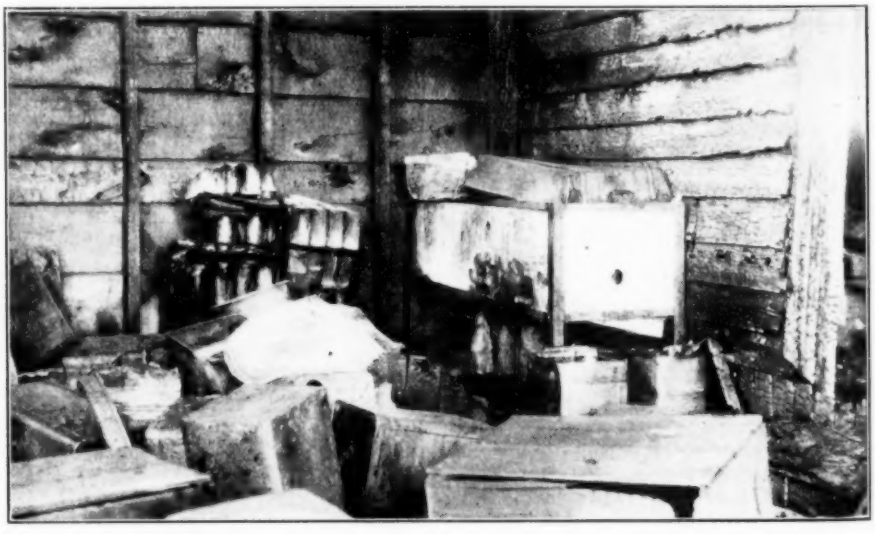
Probably there is nothing much to say that has not already been said about fire, just as there is nothing much one can do about it afterwards. The picture below shows what the inside of a honey house can look like, and what mine did look like after a fire. As a preventive, a concrete floor would help, also brick or concrete walls, if one could afford them. But the contents of a building are often a more important element in the fire hazard than the structure itself. From the very nature of the business the contents of a honey house are bound to be highly inflammable. Hives, supers, inside furniture, are all very much like tinder. Honey itself burns with an intense heat once it gets started. The hazard is increased by the fact that much of the work in the honey house calls for heat. Uncapping, melting honey, rendering wax, putting foundation into sections, all require that a fire be kept going—not to mention hot smokers. However, these conditions need not mean that the honey house will burn down. Powder houses are extremely inflammable but they do not often catch fire. The deciding factor in regard to fire seems more often to be the care and watchfulness taken to prevent it.—W. H. Hull, Vienna, Va.

EFFICIENT INSPECTION NEEDED

Thorough Apiary Inspection and Prompt Eradication of Disease Is What Counts

Article after article and editorial after editorial has appeared in the various bee journals, warning beekeepers of the seriousness of A. F. B. Still, many of them will begin working their bees this spring with only a vague idea of what the disease can really amount to within their yards. Some colonies will even be neglected that have died this winter, with diseased honey available for healthy colonies. Will it ever be possible to impress every beekeeper, large or small, of the serious destructiveness of A. F. B.? I might say here that it isn't always the small beekeeper who spreads the disease.

I spent the past year studying diseases



Interior view of honey house after a fire. Much of the work in the honey house requires heat, and therefore a fire somewhere in the plant. At the same time the contents of the building is likely to be of a very inflammable nature. The best preventive is watchfulness and care.

of bees in the North, and I have found several large beekeepers, who, through their influence or prestige, wholly evade inspection. The inspector is assured that the commercial man, with several hundred colonies, can easily take care of his own disease. Some of these expert honey producers are, really and truly, past masters in propagating A. F. B. They not only maintain yards of A. F. B. colonies, but transport them around over several counties hunting good bee pasture, thereby scattering disease over a large area. When the neighbor, with only half a dozen colonies, has a couple of them contract A. F. B., the commercial men begin to call on the inspector to come in. I've known of one commercial producer to do this very thing, when he had over a hundred colonies with A. F. B. at the time. Of course, the small man was cleaned out and nothing said.

I'm not fighting commercial men, for many of them I find to be very systematic and strict in ridding their yards of disease. They also invite the State Inspector to visit the yards any time. These men were willing to co-operate with the state in clearing up A. F. B.

I am convinced that state controlled inspection is the way to keep down A. F. B., but unless all states join with the present minority in backing up inspection with rigid laws and give the inspector authority to destroy diseased equipment as well as bees, they will be spending the taxpayers' money on a useless cause. To inspect a man's bees, be he novice or an experienced beekeeper, and advise him that half of them are diseased, is useless, unless an immediate cure is administered. Nine men out of ten will leave the colonies set until they die and are robbed out. If they should attempt to destroy or treat a diseased colony, chances are the disease would be scattered more badly than before.—H. M. Carr., Jr., Electra, Texas.

COMBATING WAX MOTHS

Strong Colonies and Tight Fitting Hives and Supers Are Essential

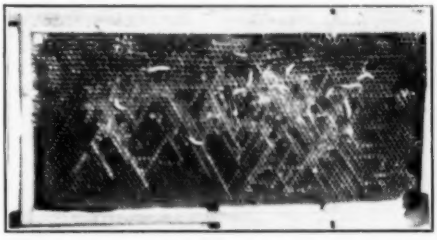
I do not believe there is anything more discouraging in beekeeping than to open an empty hive of near-perfect drawn-out brood combs and discover them to be infested with wax-moth larvae.

Such was my predicament last spring when I examined a hive containing ten frames of drawn-out dark combs. The hive had been stacked on top of some empty supers on the back porch. The hive body sat squarely and snugly on top of the supers, and a lid covered the top perfectly. No small opening remained through which a moth could pass.

Yet being on the back porch, as they were, they were slightly dislodged by someone or something so that an opening was made which was a welcome invitation for the ever-watchful moth.

The beekeeper who has a fairly general knowledge of beekeeping has little or no trouble with moth larvae inside his hives. He has learned that strong colonies in good hives are likely to remain free of moths. In regions where the fall and winter are fair and warm, the ravages of these pests are more noticeable than in colder regions. When one considers the cost of full sheets of foundation and the amount of time spent and honey consumed by the bees to draw out these combs, the loss of several such combs is not to be overlooked.

The picture illustrates the ravages of the wax moth on a well drawn-out, dark,



Ravages of wax moths on a well drawn-out dark brood comb.

brood comb. As the picture reveals, the larvae are exposing themselves on the surface of the comb. Why are they doing this? Well, you can be sure not of their own accord. They are being driven out by the heat of the sun's rays. This suggests a method of ridding combs of moths. This frame was leaned up against the base of a building with the rays of the evening sun shining on it. Within approximately ten minutes' time, the back side of the comb was literally covered with giant white larvae. They crawled on down to the ground, and on the hot sand they seemed to wither with the heat. No doubt they all perished from the harsh exposure.

To the beekeeper who has larva-infested combs, I would suggest that he place them on the sunny side of a building some fair day. Leave them there until all of the larvae have crawled out. Brush off the larva and burn them. The remains of the combs, free of these large worms, will be in much better condition to melt up for wax.

There are several precautions one should take in safeguarding his empty combs from moths. First, he should stack his hive bodies and supers, containing the combs in a place where they will not be disturbed or dislodged. The hive bodies should fit snugly together so that no small openings whatsoever remain. Some beekeepers take the extra precaution of placing strong chemicals in a stack of hives in order to fumigate them. Holding the hives intact by nailing small cleats on them is recommended.

In combating the wax moth it is useless to take the offensive stand. They are too many in number. The sane method is to keep up a constant, strong defensive stand —that of strong colonies and tight-fitting hives.—Clarence J. Tontz, Stillwater, Oklahoma.

[When placing combs in the sun one must be sure the rays of the sun are not too hot for the combs or they may melt. Also, when combs are not in use, on the hives during the fall months, it is well to treat them with carbon bisulphide, as per directions, found on page 562.—Editor.]

WASHBOARD MOVEMENT OF BEES

Bees Appear to Make Small Openings Between Supers Larger by This Movement

There seems to be an uncertainty as to the purpose of the bee when it is executing the so-called washboard movement. Probably most people who have handled bees for a period of years have their opinions on this subject, as I have. Most of us are too diffident to appear in print with our views and show our ignorance. We have heard the saying, "Fools rush in where angels fear to tread." I feel it is time for me to blunder in and air my views on this subject.

Some twenty-five years ago while talking with one of the men in the very front rank of bee investigation work I was told "bees can not injure fruit, that they have no tools to do the cutting with." This is undoubtedly true, and I do not doubt or question its soundness. However, if the bees can not penetrate the skins of sound fruit they can and do, given a start, remove a quarter-inch of white pine wood when they feel so inclined. I wonder how many of the older beekeepers have had perfectly sound wood removed in certain hives where a partial opening was found by the bees between hives or supers?

This is the subject I was talking of when the above authority made the statement about bees and fruit. I had contended the bees did cut, by some method, the wood around any opening, if it was not quite large enough for them to pass. I was laughed at for saying this.

During the years I have often watched the bees at their work on one of these openings. They would be doing the washboard movement which I had called weaving. One could not see any evidence of the opening becoming larger, yet I had proved to my own satisfaction that this movement has a reason and ultimately resulted in a larger opening at the point where they were working.

On several occasions in late spring I have marked with a fine nail the limit of the bevel of the opening on which the bees were occupied with the so-called washboard movement. By the time the supers were removed in the fall the cutting or bevel had become so much enlarged that the mark which I had made had disappeared entirely. The wood, including the scratch mark, could not have just evaporated, it must have been changed in some manner.

We all know dropping water will in time wear away the hardest of stone, and I contend that the washboard movement is a form of friction which will in time wear away the wood. Why is it that such an entrance or opening is always practically sandpaper smooth?

If we leave a piece of white pine wood exposed to the elements the weather will in time take away any smoothness it may have possessed and as the soft fibers of the wood disintegrates it will become quite rough. The surface becomes softened and completely unlike the surface of the small holes which appear between the hive and supers. These openings are rarely more than a bee space in width which is rather significant.

I have found that as long as the surface of the wood is well covered with paint it is seldom operated on by the bees

to make an opening between the hive supers, and I judge paint is the best preventive for all practical purposes.—Penn G. Snyder, Dayton, Ohio.

A YOUNG BEE ENTHUSIAST

Youthful Idaho Farm Expert Wins College Scholarship

Work and leadership that made him one of the outstanding farm youths in the United States has recently won Henry Pharris, Jerome, Idaho, 17, high school senior, a $100 scholarship in the school of agriculture at the state university, Moscow.

Henry's most notable honor came when he was selected highest individual 4-H Club judge at the Pacific International Livestock exposition at San Francisco. Since a total of 41 teams took part in this event the boy's triumph gave him every reason to be proud.

Henry Pharris has always been passionately interested in farm life. At the present time he has 95 colonies of bees. His goal is 145 colonies, which he expects to have by next spring. Bee culture is not only his avocation but his vocation and he wants to make it his life work. Fine live stock also interests the lad.

Henry has for many years been prominently identified with 4-H club work, participating in local and regional activities of this organization with distinct credit to himself. His hogs twice captured the district prize and he showed his fat barrows upon several occasions at the Pacific International exposition. During his university course he will specialize in the science of entomology and hopes that his apiary will aid greatly in financing his college years.

Many other things besides F. F. A. and 4-H activities were considered in the awarding of the scholarship, among them leadership, personality and scholastic excellence. Henry qualified for the award because of his versatility in many lines of endeavor. Modest and likable, he is popular with his schoolmates.—Henry H. Graham, Twin Falls, Idaho.

COMMENTS ON CURRENT ITEMS

Mr. Geo. Marvin, of Honolulu, brings up the point that honey granulates quicker in old combs than in new. We think he is right. In the spring if any of the combs in our shallow supers are candied (and this condition is seldom present if the colony is of normal strength) we put a full-depth super over the candied honey in which we place a 10-pound feeder pail of water. The bees use the water which saves them a lot of work going after it. We have had full supers of solid candied honey cleared in a short time with water in a honey pail in which a couple of holes were punched from the inside of the cover out, never from the outside in. Early in the spring or when the weather was at all changeable, we tucked a cushion or a bag around the water pail and laid a newspaper on top of the super containing the water feeder pail.

Skunks

They are our greatest enemies here. If we leave traps for them the traps are stolen. When trappers kept them down we had no trouble but the pelts are now worth so little that hunters are not interested in trapping them.

Selling Honey at Roadside Stands

About selling honey at roadside stands, if conditions are right it is an ideal way to make money out of a crop of honey. We have had a lot of experience along that line. Before the Peace Bridge at the head of the Niagara River was built, cars were ferried across in 20-minute trips. Thirty-five miles an hour was the speed limit then and there was plenty of room to turn into our stand. We sold for years all of our own honey, bought all our neighbors could spare, and one year we bought 5000 pounds in addition from the Co-operative, in which we held stock. Sales ran as high as over $60.00 in a day at the peak.

After the Peace Bridge was built the cars just roared by, often at 60 or more miles an hour, and so close together they simply couldn't turn in, and, of course, we closed the stand. We now have a sign at each end of our street and retail our honey at our town residence.

Resistant Strain of Bees

About a resistant strain to A. F. B., a resistant strain of beekeepers is the only solution of this question. When viewing Mr. Burbank's wonderful hybrids in flowers a visitor said to that plant wizard, "Can the leopard change his spots?" He answered, "No, but man can assist him to do so."—J. F. Dunn, Ridgway, Ontario.

XUM

SPINSTER JANE SAYS—

Drouth Broken

The drouth was broken on Sunday by a short downpour of rain and hail, accompanied by a driving wind, thunder and lightning, but within twenty-four hours, not a puddle, scarcely a sign, remained. Hail pellets were large as moth balls, but the storm did not last long enough to do any real damage to crops. Now the drouth goes on. The grass has become crisp and brittle under our feet, and the Forestry Branch has had gangs of men out fighting fires on all sides of us, heavy smoke-clouds rimming the horizon.

Bees, for a time, could find no nectar. Now, goldenrod, fireweed, and the first-cut sweet clover are in bloom. No wonder they were cranky most of the time, nothing coming in.

Good and Bad Tempered Bees and Folks

We hear a great deal now-a-days, particularly in divorce courts and in Hollywood, about temperamental people, and I'm wondering what is the difference between being temperamental or just plain bad tempered.

The cause of adults going temperamental lies in their not being sufficiently, nor thoroughly enough spanked, when exhibiting fits of temper in childhood. Children, getting away with such exhibitions (kicking, head-thumping, etc.) and getting their own way, thereby, grow up with the same idea. They are too old to spank then. The mischief has already been done. But oh! What such people do to homes, and to society at large! Homes are wrecked, little children's disposition warped, hearts broken—all through their selfishness and silliness.

When John puts up stove pipes, and they fail and utterly refuse to go together, he is apt to kick them to smithereens. This shows he wasn't spanked enough. I do wish he would go into bee-keeping, and kick a hive or two over. The bees might teach him what his parents failed to do. I know I'd get quite a kick out of it. Of course, with him, I know it is temperament, because at other times he is fairly easy to get on with.

Are bees temperamental? I believe they are, though the black ones I told you of long ago, those hit-and-run ones, were bad-tempered. They were always ugly and ready to raise ructions. Bees are temperamental when no food is coming in, and why shouldn't they be? Women are the same, unless brow-beaten and scared by the temperamental men to whom they are tied. Such men need temperamental wives. When hubby starts kicking things about, or throwing dishes, wifie should do the same. If he smashes a plate, she should hurl an expensive, cut-glass pitcher. Ten to one he doesn't stop and say, "What ails you? Have you gone crazy?" If she then should sweetly reply that she really would prefer all her dishes new—well, it might work out. One or two such breaks on the wife's part would surely break hubby, give her a real break, and save heartbreak in the end.

Bees are temperamental when roughly handled, and they have every right to be. No amount of handling can ever tame a bee. There can never be any spanking or punishment for them. We just have to take them as they are, because, poor things, they are not human after all. Theirs is the old Jewish doctrine, "An eye for an eye." Do unto others as they do unto you, is their motto, and many, like David Harum, believe in doing it first, especially if irritable and out of sorts.

Women Folks of the Hive

But what of the queen? A queen indeed, is she, regally quiet and dignified, fighting none but her equal in rank, and then only in defense of her throne. Women who are mothers, and queens in their own homes, can surely do as much; fight for their homes and children, keep their man, whether he is worth it or not, just as a warning to others.

In the bee hive we find the best form of petticoat government in the world. The males are subjugated, so much so that they've given over even worrying about it. They've grown fat, contented, lazy, and the best-natured males known in the whole world. Do we women want such mates? Can the joy of ruling, governing, make us content with a lazy, fat drone for a husband, no matter how good-natured? If we do, there is a way, and the bees have shown it.

Women like their place in the sun, but they surely draw the line at drones. Even the worker bees grow tired of them and give them the air. Life would be a dull thing without a few little differences fought out occasionally. It is only through such that we find their real opinion of us, and can appreciate their real worth. In fact, the older I grow, the more I admire bees, and the more of life's lessons I learn from them.—Spinster Jane.

Heads of Grain from Different Fields

Raising Queens Above the Excluder

In this locality one can not produce good queens above excluders, even when bountifully fed with syrup, unless the brood nest above the excluder is well filled with fresh pollen and crowded with young bees. During some seasons, in fact, nearly every season, the bees refuse to build any cells at all above excluders. Over a series of years we have noticed that to get a good queen cell above, it is necessary to find a suitable, well-fed cell and place it above the excluders. Now there are those who claim that pollen does not enter into the make-up of an embryo queen, so perhaps the pollen theory may be only a myth—maybe so or maybe not. At any rate, without pollen in the super above the queen excluder few cells are started or fed. We rather suspect local conditions may have something to do with this. —J. H. Sturtevant, St. Paul, Nebraska.

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A Few Seasonal Don'ts

Don't be afraid to hand out free samples of choice honey. Honey disposed of in this way brings a good price. Charge it to advertising.

Don't begin now to figure how low you have got to sell your honey to undersell your neighbor. That price-cutting is not good advertising.

Don't be a price cutter, be a booster for honey and you will not have to cut the price. Use honey, talk honey, sell honey on its merit.

Don't be satisfied with a hundred pounds per hive surplus because your neighbor gets that. Get ten pounds more and get one to two cents more per pound.

Don't be afraid to advertise. If you can not do it yourself join the American Honey Institute. Your dollars will do more for you there than anywhere else.

Don't you notice how Spinster Jane is advertising. This is simply another form of it.—Walter Joslin, Stephenson, Mich.

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He Makes Beekeeping Pay

I have kept bees for over thirty years, and have been a reader of Gleanings during most of my beekeeping career. I have always made money with bees. Last winter was a bad one for bees in this locality, but this summer has been very good so far. Some of my colonies have stored over 100 pounds of finished comb honey which I sold at 25 cents per pound. The honey this year is extra good quality. I am working two other bee yards on shares besides my own, and have made it pay. I believe in young queens and good equipment.—F. L. Wheeler, Westfield, New York.

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Handy Method of Hiving Swarm

After shaking a very perverse swarm from a tree into a small tub for the fourth or fifth time, and having the whole swarm fly back to the same branch, I tried a different method which really seems much easier. I cut a small limb from a scrub plum tree and held it close beneath the cluster and shook the swarm from the limb. They immediately formed a cluster on the small branch, which I held with one hand and steadily jarred the limb with the other to prevent them from lighting on the former location. In less than three minutes practically all of the swarm had settled on the plum branch and when placed on top of an open hive they quickly made themselves at home. By this method I did not need to cut a branch from a valuable tree and the branch I used was much easier manipulated than a tub or sack. Probably this is an old story to many, but to an amateur beekeeper, such as I am, it seems a handy stunt.—Frank D. Chamberlain, Medina, Ohio.

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Swarm Follows Owner to Cemetery

Last year in a nearby town, an aged beekeeper died during the winter and his nephew took charge of his apiary. The apiary is located in an extensive apple orchard about 50 rods from the cemetery in which the aged beekeeper is buried. In late spring a swarm issued but instead of settling in the orchard it went over into the cemetery and suddenly disappeared. Efforts to find the swarm were futile, probably because their pursuers were not aware that bees may take a subterranean abode. A few months later some workmen in the cemetery came across the swarm

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contentedly hived in a deep hole in the cemetery. The bees, comb, and honey were quite dirty and black from their contact with the earth, but otherwise as energetic as any swarm.—W. L. Rogers, Georgetown, Massachusetts.

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Convenient Shade for Beekeeper

Sometimes it is necessary to locate bees where there is no shade. Those beekeepers who practice migratory beekeeping are often confronted with this undesirable condition, particularly when bees are moved right out to sweet clover fields in order to secure this crop. For those who must see that these bees are properly cared for an umbrella similar to the one shown in Fig. 2 will make a very hot job a much more endurable one. Such a sun shade may be made if one has the time and inclination, but these umbrellas are obtainable at most any implement shop for a small sum. Sometimes they may be picked up very cheaply at farm or community sales. As shown in Fig. 1, a three-quarter-inch iron rod with sharpened point is inserted in the handle of the umbrella with a foot pedal attached so the rod may be forced into the ground easily. If easily available, a sharpened corn planter stake may be use in place of the iron rod.—**Benjamin Nielsen**, Aurora, Nebraska.

Fig. 1.—Pointed rod is attached to end of umbrella.

Fig. 2.—Umbrella for shade.

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Texas May be Champion Honey State in 1936

Texas will dethrone California this year as the champion honey-producing state in the Union, T. W. Burleson, of Waxahachie, president of the American Honey Producers' League, forecasts. Mr. Burleson, director of the Texas Beekeepers' Association educational exhibit of bees and bee products at the Hall of Agriculture of the Texas Centennial Exposition, claimed an all-time high record crop in south Texas, the big honey producing section of the state that built the $25,000,000 World's Fair at Dallas to celebrate 100 years of achievement since gaining ind pendence from Mexico. The huajillo and catsclaw of south Texas produced an abundance of nectar carrying blooms in March, April, and May and are responsible for Texas regaining the laurels she lost to California three years ago.—Garfield Crawford, Dallas, Texas.

[In view of the International Conference of Beekeepers to be held in San Antonio, November 22-25, it would seem appropriate if Texas should prove to be the champion honey producing state for 1936.—Editor.]

Editorials

For particulars on how to get to the San Antonio International, see page 538.

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Be sure to read the article by Prof. Wilson on page 521. On the matter of statistics and price trends covering a series of years, it is one of the most informative articles that has been published in years.

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The Drouth

No one can adequately form an idea of the extent and fearful damage of the drouth over wide areas in the country unless he has driven over it as have the editors of this journal. In some places the starving cattle, and worse still, starving families and abandoned homes, present a picture of gloom.

Man is almost helpless. He can only mitigate its effects. Even in productive Michigan, save for the fields of alfalfa and sweet clover, the burned-over grass, corn drooping and turned white, is bad enough. The Dakotas present a picture infinitely worse.

No one knows now how much the drouth may have cut down the country's honey crop. Corn, it is estimated, will be only half of a normal crop.

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Fire Blight Bacteria Killed When Introduced Into Honey

There has just appeared in the Journal of Agricultural Research a paper on the question whether the beehive may be a focus of infection for fire blight, this work being done co-operatively between Professor E. M. Hildebrand of the Department of Plant Pathology, and Doctor E. F. Phillips. It will be recalled by our readers that some time ago Rosen of Arkansas made some extravagant claims to the effect that the hive serves as a place in which the organism causing fire blight may spend the winter and be distributed to fruit trees in spring. In some work lasting over a period of three years under varying conditions it has been found that when these organisms are introduced into the hive by the billions, they all die in a few days. It is, of course, well known that honey destroys many bacteria, but it is somewhat comforting to learn that the bacteria causing fire blight are also killed in the process of ripening nectar into honey. The scare which was begun by speculation is thus found to be without foundation, and the honeybee still remains only the friend of the fruit grower.

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The Wintering Problem Just Ahead

Winter is coming, in fact, it will be here before we know it. The winter of 1935-36, so disastrous to bees throughout the North, will not soon be forgotten. Beekeepers who experienced heavy losses last winter may be tempted this fall to either kill their bees or let them die and re-stock their hives with packages next spring.

While this practice may be feasible in some regions of the far North, beekeepers located a little further south should winter their bees, either in properly constructed bee cellars or out of doors, with adequate protection in the way of packing and windbreaks, also an abundance of good stores.

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Carbolic Acid for Removing Honey--Caution

A good many beekeepers are successfully removing surplus honey from the hives by the acid plan, with one trip to the yard. When using bee escapes it is necessary to make two trips. Unless the supers are bee tight, robbers may get in and take the honey before the beekeeper makes his return trip, and robbing should be avoided.

The carbolic acid plan will work provided directions are faithfully followed. See page 492 of our last issue. Right here it is necessary to enter a caution. Use pure crystals or the honey may carry a carbolic odor. Dissolve the crystals in water exactly in the proportions called for. If the solution is too strong it will drive all the bees out at the hive entrance. This will do damage to the queen, causing possible supersedure and at the same time it will injure the bees. Mr. Geo. H. Rea, extension apiarist for the state of New

XUM

York (see page 539), says some beekeepers have abandoned the acid plan and have gone back to the bee escape method even if it is slower and requires two trips.

Unless the day is hot or the sun shining brightly, the bees may be slow in leaving the supers.

It can not be too strongly emphasized that carbolic acid forms a poisonous gas that may damage bees as well as queens. The prepared liquid is very corrosive and may burn the skin. Washing in a solution of baking soda will prevent burning.

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A Dollar a Ton for the American Honey Institute

Miss Mercedes Cranston, of the American Honey Institute, presented the work of the organization at three big field meetings in Michigan, viz.: at Adrian, on August 6; Ithaca, August 7, and at the lake near the home of James Hilbert, of Traverse City, on August 8.

Miss Cranston made a fine impression. She was followed by E. R. Root and by Prof. Russell H. Kelty, President of the Institute. The latter got down to brass tacks by saying that if the beekeepers present were interested as he thought they were, they should be willing to give to the Institute a dollar for every ton of honey secured the past season. He thought that would be a very modest sum to give to an organization that had secured free write-ups about honey in papers and magazines; had introduced honey into the bake shops all over the country, into the cooking schools and into the broadcasts and advertising of big food companies. To make good what he said he passed around a paper which he asked his hearers to sign, as he was doing. He secured in this way between four and five hundred dollars.

Again, at the Ohio State Beekeepers' Field Meet on the 14th, Delphos, Ohio, Miss Willah Goodman, financial secretary of the American Honey Institute, presented another plea for the Institute. She, like Miss Cranston, made a fine impression on the beekeepers present. She was followed by E. R. Root and then by Prof. Kelty. The result was another nice pledge for the Institute on the basis of a dollar a ton. Something like four hundred dollars pledged.

When these girls show the beekeepers what has been done and how much more can be done for honey, a man like President Kelty can get the beekeepers down in black and white.

We need other Prof. Keltys in every state in the Union to crystallize the sentiment worked up by the speakers, into cash. Let other states follow suit.

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The Season and Prices Again

You are not often sorry for what you haven't said. Some politicians, not to say candidates for high office, realize the truth of this statement after it is too late.

Similarly when we attempt to forecast price trends so far as they relate to honey we realize we may offend either the honey producer with a crop to sell, or the buyer, who has to meet price cutting competition on the part of honey packers.

In our last issue we tried to say, page 480, that on account of a heavy winter loss throughout the North, scarcity of fruit, and the general drouth, prices would be firm with an upward trend. That didn't please the honey buyers a little bit; but when prices are low beekeepers are discouraged and, of course, need no bee supplies nor bee journals. When prices are firm with an upward trend it helps the bee journals as well as the producers.

Well, what are the conditions today? Bumper crops have been secured in some places and not only that but the quality of the honey (white clover) is of the very best. These big yields have been secured in northern New York, north of the Finger Lakes, parts of Pennsylvania, northwestern Ohio, southeastern Michigan, particularly in the "thumb" district, and parts of Wisconsin.

On the other hand, drouth unprecedentedly severe, has prevailed in all these states and it would appear that most of the beekeepers of the country have had only a half a crop or none at all.

Representatives of Gleanings staff have been pretty well over the states just mentioned. To see a bumper crop here and blasted hopes of no crop only a few miles away, is one of the enigmas of the 1936 season north of the Ohio River and east of the Mississippi.

Here is one more factor: Beekeepers who secured little or no honey are potential buyers of honey this year. To take

care of their own trade they are trying to buy of those who do have honey and at as low a price as possible.

Alfalfa May Change the Picture

A new factor not contemplated in our price trends of last issue may or may not change the whole situation of a general shortage of honey and that is this: The series of drouths for the last six years in the clover belt have forced farmers to adopt sweet clover and alfalfa in those portions of the country that have a sweet or alkaline soil. In a tour of between three and four thousand miles through the clover belt, it is apparent that there are many more alfalfa fields in the East than ever before. The same is true of sweet clover. These fields, enormous in size, in some cases are the only bright green oases over a country parched and burned to a dry crisp. Without these fields of alfalfa and sweet clover the dairy farmer would be in a sad plight indeed. Babies would die by the thousands.

Now, listen, ye men who have bumper crops of white clover and propose to hold for better prices, bees are working on these alfalfa fields as never before. Beekeepers are putting on supers to catch this sudden flow of alfalfa honey. How much of it will be secured may be judged by the sudden demand for 60-pound cans. This season furnishes a dry climate just right for eastern alfalfa nectar. Be it remembered that this legume has long, deep roots that reach down into the sub-soil still wet from the snows of last winter.

Locally, "Jack" is out with the men this afternoon (August 12) helping them put on supers at our western yards. Our scale hive even at Medina is showing daily gains. The deep rooted alfalfa and sweet clover this season, if we get a normal crop in the Rocky Mountains may change the question of a scarcity to a normal amount of honey. We say "may." If one could see the green alfalfa fields heavily in bloom all over the clover belt as we have seen them in northwestern Ohio and all over Michigan, he would begin to wonder at the outcome.

As a guess, we would say that the alfalfa would not relieve the shortage of honey for 1936; but the producer who is holding his big crop for better prices may be making a mistake. We know of some who last year made just this mistake.

A Grave Danger

There is grave danger that some who have secured bumper crops of honey will kill the goose that lays the golden egg. How? If some of the big crops are held with the expectation of a better market, the price of honey may advance to a point where the baker will go back to invert sugar syrup, which he formerly used. This costs much less than honey. The baker prefers honey for his purpose even when honey is higher than invert sugar syrup, but he will not use honey if it is too high. What applies to one baker applies to all. If the bakers generally substitute the cheaper for the more expensive product (honey) the price of honey may take a sudden slump and then it may take years to get honey back into baked goods again. Thus will be lost the work of years on the part of the American Honey Institute to get honey into the bake shops.

It should not be forgotten that the baking trade absorbs enormous amounts of honey, both white and amber. If this outlet is cut off, it will be a sorry day for the beekeeper.

Make a note of this: If the buyers everywhere are trying to find honey, then it may be known that there is a scarcity. If, on the other hand, they are conspicuous by their absence, it may be known that the market is easing up. The tables may turn when the producers will have to find a buyer. Our advice is to hold for a few days, but don't hold too long.

Summary

To sum up, it is inconceivable that honey, over a period of years, should not advance with other goods going up. In the first place, the drouth, the worst in history, covered most beekeeping territory east of the Mississippi. The few places where bumper or normal crops of honey were secured could not offset the widespread areas of drouth. In the second place, winter losses were very severe in most localities. In the third place, there are almost no deciduous fruits. Jellies and jams are the chief competitors of honey. Without fruit, these two commodities, jellies and jams, will be scarce and high priced. Honey will be used instead if not too high in price.

Higher costs of living without proportionate increases in wages, salaries, and incomes, means less money for the average man to live on, and he will cut out, altogether, luxuries into which class honey falls, unfortunately.

XUM

From North, East, West and South

SOUTHERN CALIFORNIA, August 5

Weather: The weather over southern California during July was warm to hot most of the time, with temperatures above normal. No rain of any account has fallen in the valleys, but an occasional thunder shower in the mountains has made ideal weather for vacations there. These showers add to the water supply which is becoming a problem in many places. Every effort is being used not only to develop water but to conserve it.

Honey Crop: The honey crop was over by the middle of May for most of the beekeepers of southern California. Fortunate are the beekeepers whose bees stored any surplus honey since that date. It is only on irrigated lands, and such crops as alfalfa, or beans, that have yielded honey since the orange. Here and there you will find a beekeeper who has made some honey but by far the larger per cent have experienced a great disappointment. Buyers are paying as high as 6½ cents for orange and offering around 4¾ cents for sage buckwheat, with little being offered.

Beeswax is in demand at around 20 cents.

Miscellaneous: Controlled mating of queens has been the hope of many beekeepers for a long time. Chas. Kinzie, of Arlington, who is in the go-getter class, has built a mating pen enclosed with screen wire. He reports 50 to 60 per cent success thus far. He thinks that by building a larger enclosure he will get 85 to 90 per cent successful mating. Charlie does not hesitate to spend money when he feels it is in the interest of beekeeping. He is now busy building and collecting materials for his annual exhibit at the Los Angeles County Fair.

One of our most successful beekeepers keeps his colonies heavy with honey at all times. He takes a pair of scales and weighs the back of each hive. A two-story hive must weigh sixty pounds at the back to be ready for winter. I believe he is on the right track for he gets honey when any one does and sometimes when others do not. If colonies need feeding, August is the time to feed, in the opinion of some of our most successful beekeepers. If you have surplus combs not in use it is well to watch them closely as the moth can do a lot of damage in a very short time if given a free hand. Two and three supers stacked on each of the strong colonies is a good way to keep them. The bees will care for them until cool weather when they can be kept in any light airy place.—L. L. Andrews, Corona, California.

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NORTHERN CALIFORNIA, August 5.

Weather: July gave us a great variety of weather. We do not expect rain in the summer months but several of our counties had thunder showers and some rain. One county in the mountains reported a hail storm that caused a loss of field bees. There has been a general complaint of unusual wind—sometimes for several days' duration. In some of the alfalfa districts the entire first crop of honey was lost on account of the wind which continued for from ten to fifteen days.

Honey Sales: Old honey is practically out of the hands of producers. This, in our opinion, is good for the industry. We are still waiting for better market prices. The price must come up—there are reasons for it. The work of the American Honey Institute is being felt as far away as the Pacific Coast. Several of our states have organized a women's auxiliary which is working in conjunction with the state association and this combination has done much to popularize honey. Talks on bees and honey in the schools are having a good effect. A member of the State Association gave a talk in one of the larger schools of Oakland and finished by offering a prize for a name for his label. The prize was awarded to a girl of ten who suggested "Liquid Sunshine."

Miscellaneous: During the past month we have traveled several hundred miles among our beekeepers and the information gained is indeed interesting. In the star thistle region it is reported that 30,-

000 colonies have been moved in from places where honey is a failure. This means more disappointed beekeepers. Here we met groups of beekeepers trying to answer the question, "Why are we getting so little honey?" The above was the first answer, but some beekeepers who were not at all crowded gave the same reason. The general complaint is: not enough bees in the hives. The answer is to be found somewhere between these two vital conditions. Only the real beekeeper can give the answer—we have but a few of them. They will tell you that the beekeepers' new year begins in October. At that time bees are left in good condition with plenty of honey. During the winter months the real beekeeper does a lot of reading, which includes the best bee literature and all of the bee journals. In the spring they have their bees ready for the first honey flow and they keep them in that condition from one flow to another. Such beekeepers are few in numbers but they will eventually control beekeeping which is rapidly growing into a great industry.—Cary W. Hartman, Oakland, California.

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WESTERN WASHINGTON, August 7

Weather: During the later part of April, and continuing through May and June, this part of the state was visited almost daily by refreshing showers, maintaining that balance of moisture so essential to the sturdy growth of plant life. Since July 7 no rain has fallen, but as this is being written there are unmistakable signs that a good rain is just in the offing. For June and July the days were warm without being oppressive, with an average mid-day temperature of around 80 degrees.

Honey Crop: With these ideal weather conditions prevailing, colonies for the most part quickly regained losses sustained through an unusually stormy March; and much nectar was stored through the spring and early summer from dandelion, fruit bloom, mustard, kale, wild flowers, and many varieties of flowering shrubs. The clovers yielded well for a time in June, but did not continue far into July. By July 15 fireweed began to blossom. It is now yielding nectar and—if we get our usual August rains—it will continue well into September. Reports from widely separated sections indicate that production to date is ahead of that of 1935.

Miscellaneous: In spite of a thirty-day period without rain, few forest fires have occurred and most of these were quickly brought under control—thanks to Uncle Sam's good forest rangers, and the C. C. C. boys. Many new roads and trails have been built by these beneficent industrial groups which not only minimize fire hazards, but serve to open up vast areas of virgin lands hitherto inaccessible to the beekeeper, where hundreds of tons of nectar have been wasted annually because there were no bees to gather it. As this road system is extended from year to year, its importance to the beekeeper who is willing to move a few miles for fresh pasture becomes increasingly great.

There is one flower that never should be allowed to grow, much less to be cultivated, by those who are friendly to bees. This particular flower, beautiful though it is, is responsible for the premature death of thousands of honey bees every year. It is the tame snapdragon so common in home gardens the country over. When the bee enters this flower's throat seeking its nectar, the dragonlike jaws close behind the worker, and the beautiful flower becomes a tomb from which the imprisoned bee seldom escapes. I have seen a bee enter the dragon's mouth and after waiting some minutes for it to come out, opened the flower, to find the worker almost to the point of exhaustion from its frantic efforts to escape. Opening other blossoms on the same stalk many entombed bees were found, all of which were dead. On closer observation it was found that a worker sometimes escapes from the older blossoms, but seldom if ever from the younger ones.—Ewing C. Pershall, Seattle, Washington.

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TEXAS, August 1.

Weather: The weather during the month of July was much cooler than usual with the rainfall somewhat above normal. Spotted honey flows have been reported especially in the southern part of the cotton district. As a whole, no general honey flow has occurred. The bees are reported to be in fine shape and the cotton

in condition for a honey flow. The only draw back is the great activity in the application of spray poisons. The spring honey crop produced by those who are anxious to sell has largely passed from the market. However, large stocks remain in possession of the producers who will hold this honey for higher prices. In the meantime small lots of a mixture of spring honey are coming from central and south Texas. This honey is not guajillo, but sells just as readily.

Honey producers attending the short course at College Station report the beginning of cotton honey flows in the central and northern parts of the state. From the guajillo district the producers present reported that they were holding their honey for better prices. A summary of these reports would indicate that the honey crop in Texas this year will not be up to normal.

Increasing interest is being manifested by Texas beekeepers in the International Conference of beekeepers which will be held this fall. This was evidenced by the attendance at the annual meeting of the beekeepers at College Station of numbers of the larger honey producers who have not met with the Association for a numbers of years. The most hopeful phase of this interest is that there are many young beekeepers coming from beekeeping families who know the traditions of the industry and are ready to aid it, by making this convention one to be long remembered. One of the most surprising pieces of information coming before the association meeting was the demand for more available courses in beekeeping in A. and M. College and for a full time assistant in beekeeping to work with the 4-H clubs.—H. B. Parks, San Antonio, Texas.

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OREGON, August 6.

The writer has recently returned from a trip to central and northeastern Oregon, where he has had an opportunity to contact many of the commercial producers. In general, there seems to be an optimistic feeling among the producers. Conditions seem to be about normal, with the feeling that the market situation is somewhat improved, although probably there will be little advancement in prices. In certain areas, like the Eagle Valley of Baker County, where alfalfa weevil is becoming serious, crop prospects are less encouraging. There appears to be a marked increase in both bees and beekeepers in the Malheur district, as a result of enlarged acreage under the new dam. In the Hermiston district quite the reverse is true, and most of the commercial beekeepers have moved out.

Generally there seems to be a feeling that the disease situation is better. The State Department of Agriculture has been able to make some progress even with its limited funds. However, the situation is far from satisfactory, and additional financial support for disease control is seriously needed.

W. G. Rodda has this year been placed in charge of the bee and honey exhibit at the State Fair. The honey exhibit will again be in the location it has occupied for several years. Cash premiums have been slightly increased. It is unfortunate, however, that the fair is so early that many of the beekeepers do not have honey available for exhibition. The dates this year are from September 7 to 13. For more detailed information relative to entries, etc., write to the State Fair Management at Salem.

The dates for the Oregon State Beekeepers' Association meeting have not as yet been selected. Due to the fact that the meetings in Texas will be held November 22 to 25, and the California meetings November 1, 2, and 3, it is possible that the Oregon meetings will be held following the California meetings, in order that anyone attending the national meetings in Texas and the California meetings, will be able to come on north to the Oregon meetings later. The final date, however, will be announced later.—H. A. Scullen, Corvallis, Oregon.

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MONTANA, August 4.

Weather: July has been very hot. There has been a great deal of lightning and some wind and hail. A small area in which the hail came looked very bad. The ground was white and the hail stones were very large. They damaged alfalfa. Some alfalfa was cut too early for the bees to get any nectar.

Honey Crop: Due to drouth and heat, the honey crop will be very light. Some colonies have starved. Others will make 40 pounds surplus. Some parts have had dis-

astrous fires and smoke. In the extreme western part of Montana so far we have had an abundance of water for irrigation and hay crops are very fine. There are more beets, peas, and grain than usual, so it has left the pasturage a bit shy for the bees. There were few volunteer plants such as sweet and white clover. In Bitter Root Valley conditions have been more favorable. Alfalfa fields that are cut before they mature soon winter kill. We have very little alfalfa seed, and a great amount of hay is used for dairy feed and is cut before it blooms.

Honey Market: So far there has not been much sale for honey, although there is not much in the stores. The price of honey has advanced. One chain store got in honey on Saturday and sold it all that day. I replenished their stock a few days ago. Today we had a call from them for more honey and they wanted a great number of five-pound pails.

Miscellaneous: One of our best helpers on extracting is in Yellowstone Park this year with the road department. A neighbor beekeepers' son is now a radio operator for the forest service. So we have had to lengthen the day and resort to new help.

If smoke doesn't come here, or if other unfavorable conditions do not arise, our bees should have plenty to winter on.—Parson Pile, Corvallis, Montana.

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MANITOBA, August 7

Weather: As I write these notes the thermometer stands at 98 degrees in the shade. For the past month we have endured the hottest weather ever known. Some districts have had showers but over most of the province it is very dry. In the fields the soil lays open in deep cracks that must be watched to keep from falling in, but in spite of this sweet clover blooms and yields nectar. Vegetable crops of all kinds, including corn, are a near failure. Wheat is the only crop that will yield fair returns this year.

Honey Crop: The first two weeks of July gave splendid yields, then the clover was cut and hives on scales showed no increase, then clover began to yield again and in the past few days we have had reports of daily gains of six, nine, and ten pounds a day. At St. Joseph's Orphanage I was shown the July records for many years. Nineteen thirty-four showed 118 pounds; 1935, 209 pounds, and 1936, 195 pounds. Rain now might help vegetable crops, but while clover continues to yield the beekeepers need not worry. Rain might bring cool weather and sweet clover will not yield in cool weather, for it loves the heat.

Miscellaneous: A report from the Department of Customs credits this province with package bee importations of $89,000 in 1936. This is a considerable amount—more than all other provinces of Canada combined. Reports of bee inspectors show that hundreds, through lack of money or because they could not find a shipper able to supply bees in May, have no bees this year. It would appear that the South can find a market for many more packages and the number of shippers might be increased if the business available is to be taken care of.

The value of June shipments this year is more than double the figures of last year. This may be good business for the shippers but will be a great disappointment to receivers. Many of these shipments were ordered for May and received in June. Where the best flow of honey came in the first two weeks of July, June shipments would not be in shape to gather a profitable crop. There is still a chance that clover may continue long enough for them to give fair returns, but as a rule June shipments are a disappointment.

We had 287 visitors and 82 automobiles at our annual field day on July 25.—L. T. Floyd, Winnipeg, Manitoba.

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NORTH DAKOTA, August 6

Weather: The weather to date has been about the driest on record, except for an area including several counties in the northeastern corner of the state. Here at Fargo the rainfall deficiency since the first of the year is 9½ inches, according to the local U. S. Weather Bureau. How the sweet clover is able to endure the extreme drouth is remarkable and is probably explained by its deep root system and the limited soil moisture held over

from last year; however, unless an ample amount of rainfall is had before the close of the season, there is going to be a great reduction in the acreage of sweet clover bloom in 1937. In general, the weather this season has not been conducive to seed germination, and as a result there are comparatively few young plants to provide for next year's crop.

Just how much damage the drouth has meant to the bee industry of the state is difficult to say. It is believed to have reduced the number of colonies by 20 per cent to 25 per cent. The loss would be much greater were it not that most of the beekeeping of the state appears to be limited to the river valleys and the northeastern section where beekeeping conditions have been more favorable. In the more favored areas, a fair crop of honey seems to be assured. The quality of the honey is excellent.

Marketing: Recently a score or more of the commercial beekeepers located principally in the Red River area of North Dakota and Minnesota met at Grand Forks to consider formation of a honey marketing organization. The Department of Agricultural Economics of the North Dakota Agricultural College is extending co-operation and assistance in the development of the new marketing agency.

Colony Conditions: During the hot weather of July a few reports of combs melting down in hives were received. It is believed that most of the melting occurred in weak colonies or poorly ventilated hives. In general, brood rearing continued at a fairly normal rate and colonies are in excellent condition at this time.

Miscellaneous: Between 50 and 60 beekeepers attended the annual summer meeting and picnic of the North Dakota Beekeepers' Association held at Wahpeton, North Dakota, July 15. Mr. L. C. Dadant, Hamilton, Illinois, attended and took part in the program. Wallace Manikowske, Mooreton, North Dakota, president of the Association, reported on his experience in transporting package bees by auto truck from southern states. Several of the beekeepers present announced their intention of attending the national bee meetings to be held in San Antonio, Texas, in November.

The writer spent several days during the past week, at Brandon, attending a meeting of entomologists representing the Great Plains region of Canada and the United States. Accompanied by Professor H. F. Wilson of Wisconsin, I had the pleasure of visiting the apiary of the Dominion Experiment Station located about a mile from Brandon. We were very favorably impressed by the well-kept apiary and the experimental work in beekeeping being conducted there. In previous years this apiary was located at Morden, Manitoba, but we were told that arsenical spraying of trees at Morden, and consequent poisoning of bees, brought about the necessity of moving to the Brandon vicinity.—J. A. Munro, Fargo, North Dakota.

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KANSAS, August 1.

Weather: During the months of June and July, Kansas experienced another drouth. It was extremely hot and dry during the greater part of this period. The last good rain was on June 5, for central and northern Kansas until July 27, except for Doniphan County. Doniphan County and parts of southeastern Kansas were exceptions to this condition of rainfall. These two areas had an additional rain of about three quarters of an inch about the middle of June. Since the 27th of July, the northern and eastern part of the state has enjoyed cooler weather, due to the heavy precipitation of moisture on the 27th and 28th.

Honey Crop: White clover, yellow sweet clover and white sweet clover yielded some nectar in various parts of eastern Kansas as did also alfalfa in the central area. Since the 25th of June there has been no honey flow except in Doniphan County. The honey flow in that county continued up until about July 10, due to the favorable soil moisture conditions in the vicinity of the Missouri River.

Two factors prevented a good honey flow this year in eastern Kansas. One has been the excessive hot and dry weather and combined with this is the other condition of heavy infestation of grasshoppers which eastern Kansas has not experienced for several decades. The grasshoppers began the stripping of the leaves and blooms of alfalfa and sweet clover plants early in June. At the same time the hot dry weather began its work of burning and drying up of the crops. In

many places due to these conditions, the honey flow finished about June 20. Since that time colonies have been losing weight. In central Kansas in most instances colonies will probably have enough honey to carry them through the winter. On the whole, the honey-producing areas of Kansas will have a short crop. The honey which has been obtained is of a most excellent quality.

Honey Crop Prospects: With the coming of the rains of the last few days in July, the prospect of a future honey crop is somewhat better. There is a possibility that with continued rains and cooler weather in central and northern parts of Kansas, smartweed may again secrete nectar this year. There is also a good prospect of Spanish needle nectar secretion in southeastern Kansas if rains continue.

Miscellaneous: During September, Kansas has two fairs of state importance, the Kansas Free Fair, Topeka, September 13 to 19, and the Kansas State Fair at Hutchinson, September 20 to 26. Premium lists for exhibits at these fairs are now available and can be had by writing to the secretaries of these fairs; namely, M. W. Jeneks, of Topeka, and to H. W. Avery, of Hutchinson.

The Arkansas Valley Beekeepers' Association held their summer picnic meeting in Wichita on July 18. The Southeastern Kansas Beekeepers' Association held their annual meeting on July 19, on the E. L. Yount farm, three miles north of Chanute. The Kansas State Beekeepers' Association annual and picnic meeting was held in Washburn Park, Topeka, on July 26. Attendance at these meetings was somewhat less than what it had been in the past years, probably due to the excessively hot weather. On the 18th and 19th, southern Kansas had temperatures which ranged between 110° to 121° F.—R. L. Parker, Manhattan, Kansas.

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FLORIDA, August 4.

Weather: The weather for July has been unusually hot and dry, both in northwest and central Florida. This has retarded the growth of white pursley in the northwest part of the state, and bees are not up to standard. Recent rains will probably bring it out fast now. Also some claim that a good rain will help the mangrove as it has a second growth. This plant almost quit yielding for the want of rain.

Honey Flow: Northwest Florida produced only about half a crop of titi and tupelo honey. We had a heavy bloom on both titi and tupelo, but continuous cold winds prevented a banner yield from both sources. Some of the older beekeepers in this section are discouraged and talk of looking for better pasture as there has been a number of years right together with only 50 per cent of a crop.

In central Florida the orange yielded very well and a fair crop of good quality was secured. In many instances bees were weak and built up only in time to store a little surplus. The saw palmetto yield was spotted and in many cases bees gathered very little or no surplus. Mangrove produced for the first two weeks of bloom, then almost quit. Plants are budded heavily. With plenty of rain we still have a chance for a heavy yield from this source.

White pursley in the northwest part of the state has produced very little so far (and this has retarded requeening and increasing) owing to dry weather. This is rarely a major source of honey in our locality but is fine for winter stores, and to build bees up to normal strength. Heavy rains during the last few days will bring this out, we hope. It usually produces till frost and we have lots of time yet.

Condition of Colonies: Bees in northwest Florida are in fair condition. In the central part of the state bees were weak when moved to mangrove as there had been very little nectar coming in since the orange was over.

Honey: The quality is very good, and is moving fairly well, but with no increase in price. In some cases the darker grades have sold for a quarter of a cent below last year's price. More producers are turning to the bulk selling each year, which is a possible cause for the low prices. But then this helps the bottler as it leaves him a clearer field.

Miscellaneous: The season so far has been a disappointment. In spring bees in the northwest part of state were never in better condition and plants had a heavy bloom. The cold high winds for days cut off the nectar. But we are optimistic and we are hoping for a better season next year. More interest is shown in requeening and increasing than a year ago. Each year beekeepers are waking up to the fact that good young queens are the only kind to have.—N. Forehand, DeLand, Florida.

XUM

ILLINOIS, August 8

Weather: Since the latter part of May we have had only light local showers. Most of the time only enough to settle the dust. This condition is widespread and covers practically the whole state. However, at every bee meeting beekeepers always show the old trait and are hoping for a better crop next year.

Honey Crop: On account of the drouth the honey crop from the white clover was cut off very short. The stand of white clover was excellent and beekeepers in the white clover area were expecting a bumper crop, but were sadly disappointed when their hopes were not realized.

The greater portion of the state depends on sweet clover and sweet clover has not been affected by the dry weather, therefore, we are receiving a fair amount of honey of excellent quality.

The exceptionally good quality of the honey combined with the shortness of the crop presents an opportune time to raise the price of honey in Illinois.

Miscellaneous: Our Illinois State Fair, August 15 to 23, at Springfield, promises to be bigger and better than any previous year. All divisions have large entries, and we have more in bee culture. All exhibitors are decorating their booth with extra care in order to win the best display booth prize. Mr. F. B. Paddock, Ames, Iowa, is to be our judge.—C. L. Duax, Chicago, Illinois.

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SOUTH CAROLINA, August 4.

Weather: We had a good honey flow up until the middle of June. There was no rain to amount to anything during the month of May and June, and this cut our crop some. The spring flow was heavier than usual but did not last as long. Since the dry weather set in the bees have been hanging out on the front of the hive and it has been very nearly impossible to handle them as they are very cross and would start robbing on the least provocation.

Honey Crop: The honey that was gathered in early spring had an unusually heavy body. I attributed this to dry weather. In some cases it was so very heavy that you could hardly extract it, but it was of good flavor.

I have a few of the counties of this state organized into county beekeepers' associations. These county associations hold a meeting once a month. The attendance has held up very well and interest has been shown at every meeting. They have worked together better this year than ever before.

Disease: Disease has been very rare as I have found only two yards in the state affected and they had only one or two cases. These were destroyed by fire and the yard cleaned up.

Honey Sales: Honey has been moving very well and prices have been good. It looks as though we will have little or no honey carried over. In a number of places beekeepers have already sold most of their supply.—E. S. Prevost, Clemson, S. C.

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VIRGINIA, August 8.

Weather: The weather during June and July was very warm, but with showers in the Piedmont section of the state. However, it was very dry in the northern part, which cut the honey flow from clover. It is still very dry in some sections and feeding has had to be done.

Honey Crop: We have had a very good crop in the Piedmont section of the state. Poplar did very well. Clover did not yield very much, but sourwood was the best in several years. It seemed that the weather just suited it. It is very light in color and heavy in body. Many of the commercial beekeepers of the state report an average for the season of 90 pounds. Our main honey flow ends around the first of August. In other sections of the state there are reports of only one-third to one-half of a honey crop. Honey has started off very well. Fancy section comb is bringing $4.00, most sales are $3.60. Bulk comb in 5-lb. pails are bringing 65 cents.

Miscellaneous: The Virginia Beekeepers' Association held its summer meeting at Miller Park, Lynchburg, on July 21. There were several good speakers present, who gave us some good points. Mr. E. S. Prevost, Extension Bee Specialist from South Carolina, was guest speaker

and gave us a good picture of beekeeping in that state. He also stressed the importance of supporting the American Honey Institute. The association voted to back it 100 per cent.—H. W. Weatherford, Vernon Hill, Virginia.

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ONTARIO, August 10.

Weather: Unless we get rain in a few days buckwheat honey will be a total failure in practically all parts of Ontario west of a line from Kingston north through Perth. East of that line rainfall has been normal and crops are all good, with a fine crop of honey, I am informed. The extreme southwest part of the province, including the counties of Essex, Kent, and Elgin, have also had rain and conditions there are better. But in the rest of the province the heat wave and great drouth constitute a major calamity.

Honey Crop: At this date in our locality white honey is usually a thing of the past for the current season. This is a peculiar season, and one that will be long remembered by beekeepers and farmers of southwestern and central Ontario. Practically no rain has fallen since I wrote a month ago. The terrific heat wave that was with us on July 10 lasted for about a week, literally burning up millions of dollars' worth of crops. All heat records for over 100 years were broken.

Clovers were abundant everywhere, and if weather conditions had been normal a record crop would have been secured. As it was, in most sections a fair crop was gathered before clover was burned up. The quality of our honey is the best we have ever produced, whiter than the water white, very heavy in body and of a deliciously mild flavor.

Honey Sales: Vegetables and fruit crops are generally poor and locally at least we have had a very heavy demand for honey, many people buying from 100 to 200 pounds each. Many are stocking up with this good honey instead of buying fruit at such high prices. During the past three weeks about 6000 pounds have been sold at the honey house, about all being called for. One evening after supper some 600 pounds were taken. This will give some idea of what the demand is, and if it is the same in other places, there should be no reason for cutting prices. We have sold at a cent advance over last year. Down in the Hamilton district last week I saw a well-known producer's honey retailing for six cents less for five-pound pails than we were getting from the stores in our local towns. A visit to the wholesale district in Toronto last week showed not a pound of new honey in stock so far as I could learn. One merchant offered me a cent a pound more for honey in sixties than he was paying a year ago, but I had none to offer even at the price he suggested.

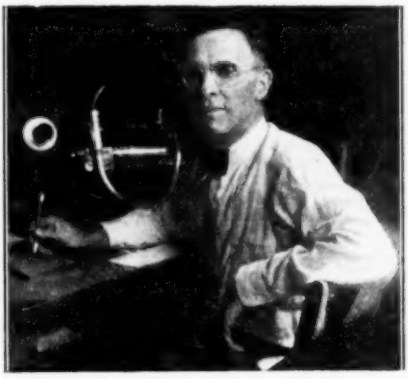
Miscellaneous: I notice that some in speaking of the abundance of alsike present this year, seem to think that a wet season will bring on this clover and a honey crop the same year. Of course, this is not so, as alsike is strictly a biennial and if none is in sight this fall, rest assured that there will be none to bloom next year. I am not sure as to just how white clover comes and goes, but I have no doubt about alsike as I have been familiar with it for at least fifty years, raising lots of seed and buying thousands of bushels for a well known seed firm. In wet years alsike sown in the spring will sometimes blossom in August, but I never knew it to yield any honey under those conditions. Alfalfa and sweet clover are both mentioned in the last issue of Gleanings as being great drouth resisters, and while this is so I have never known sweet clover here in Ontario to yield much nectar when weather was very hot or ground very dry. This year we had 150 acres of sweet clover left for seed near one apiary and the bees did not gather five pounds per colony from it. Hot dry weather prevailed all the time with not a bit of rain during the blooming period. On the other hand, alfalfa is now yielding well at all our yards, giving us the first real help from that source that we have had locally.—J. L. Byer, Markham, Ontario.

[Some beekeepers in the United States have reported yields from spring seeding of alsike during August of the same year. This is the exception rather than the rule, however. We are receiving reports of alfalfa yielding nectar in Ohio and Michigan. In fact, at this time, August 12, our bees in the western part of this state are working on alfalfa.—Editor.]

XUM

Talks to Beginners

M. J. DEYELL



Editor Deyell at his desk.

Since last month's talk I have made a tour of some of the mid-western states, meeting many beekeepers at bee meetings. As I talked with beekeepers in various states practically all of them told me that their colonies were none too strong at the beginning of the honey flow, also that the main honey flow started a week or so earlier this year than it did during the past few years. In some regions, good crops were secured. In other regions, where the drouth was at its worse, very little surplus was stored. But even in spite of the hot weather, strong colonies managed to store some surplus.

I wish it were possible for me to know how many of you beginners have actually secured surplus honey this season, because surplus honey is what we beekeepers are all after. Well, if for any reason some of you have not secured a crop, due to unfavorable weather conditions, I hope you may not become discouraged. Beekeepers, especially beginners, have to be optimistic.

On my trip I observed many fields of alfalfa. It used to be thought that alfalfa did not yield nectar east of the Mississippi except in a few restricted regions. This year alfalfa is yielding some surplus. It seems that weather conditions are just right for nectar secretion.

While attending bee meetings on my tour I met many enthusiastic beginners. Some of the more experienced beekeepers may not give beginners credit for knowing much about bees. As a matter of fact, there are some beginners who have kept bees only a few years who actually know more about beeke ping than do other beekeepers who have kept bees for many years. At least, beginners are willing and anxious to learn and they do ask questions. On the other hand, more experienced beekeepers may be somewhat hesitant about asking questions, and consequently may fail to make the progress in beekeeping that they should.

Beginners May Become Commercial Beekeepers

Some of our best commercial beekeepers made a modest beginning, with not more than one or two colonies. The beginners that forge ahead are those who attend bee meetings whenever possible in order to mingle with successful beekeepers, subscribe to bee journals, and read good books. It pays to keep up with the latest developments in beekeeping. A beginner who works along all alone and does not mingle with other beekeepers or read bee journals and books can not hope to get ahead in beekeeping. The country needs more good beekeepers as there is likely to be a shortage of honey again this year.

Management During September

In northern latitudes bees begin to act differently this month than they did earlier in the season. They seem to know that winter is approaching. When the days become cooler, bees are somewhat listless.

In some regions, however, beekeepers have a good honey flow. In localities where goldenrod and asters grow in abundance, bees frequently store considerable surplus honey. In such regions it is important to provide supers for the storage of incoming nectar. If supers are not supplied, the bees will crowd the brood chambers full of nectar and consequently queens can not lay normally. Under these conditions, brood rearing is curtailed and colonies do not have the normal amount of young bees to go into winter quarters.

It is customary during September to inspect each colony carefully to correct any conditions that may not be right. If a poor queen is found she should be re-

moved and a good queen introduced. If a colony is short on stores, a notation should be made on the record card of the hive so that the colony may be fed.

Where disease is prevalent, it is quite important to detect any colonies infected with American foulbrood during this month in order to prevent their entering winter quarters in a diseased condition. Diseased colonies should be properly disposed of. It is customary nowadays to destroy the bees by using Cyanogas. About a quarter of a spoonful of this material thrown into the entrance of the hive will kill all of the bees in the hive in less than a quarter of a minute. The combs should then be burned. The hives should be scorched out to make them safe for future use. If beginners are in doubt as to whether or not A. F. B. is present, they should call a state bee inspector.

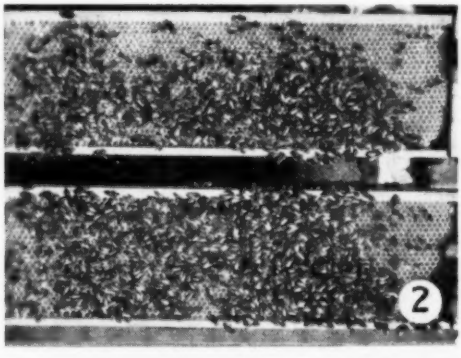
Unite Weak Colonies

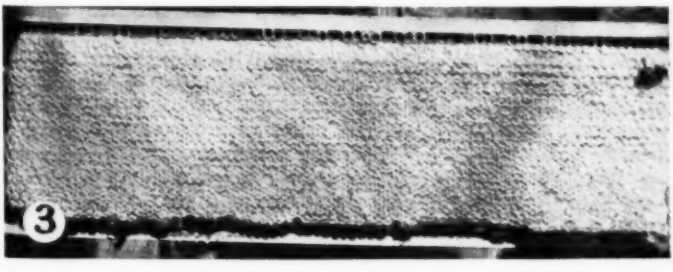
Many beginners make the mistake of attempting to winter weak colonies. This does not pay. Usually the weak colonies will die during the winter, or, if they do survive the winter they are so weak in the spring that they need to be strengthened with package bees. This necessitates an expenditure of time and money. It is much better to unite weak colonies in the fall. To do this, the newspaper plan of uniting can be used. This method consists of removing the bottom-board from one of the hives that is to be united and setting this brood chamber containing the bees on top of another colony, placing a sheet of newspaper between the two hives, punching a few small holes in the newspaper with a pencil to permit air from the bottom hive to enter the top hive. In a short time, the newspaper is gnawed away, and the two colonies unite gradually. Uniting should be done early in September if possible rather than later on in the season. If two colonies below par are being united it is unnecessary to kill the queen in one colony unless it is desirable to retain one queen which appears to be better than the other. Two colonies with queens, united in the manner just described, will eventually retain one of the queens and kill the other.

Avoid Exchanging Combs

Some beginners manipulate their colonies too often. They seem to think it is necessary to open up hives and exchange

(Continued on page 568.)





1. Frame with full sheet of comb foundation.
2. Combs partly drawn out, being filled.
3. A perfectly capped comb ready to be uncapped and extracted.
4. This illustrates easy method of supering on top.

XUM

Gleaned by Asking

THE EDITORS

Scaring Thieves from Apiaries

Question.—Do you know of any way of installing an alarm that would go off under the cover of a hive when the cover is lifted, to alarm people who live nearby, as the apiary is so located that there is no open view from the apiary to the home? If dynamite were placed in the hives, would we be responsible if a thief were injured? Perhaps a small charge would not do much harm, but would scare the thief.—Spoerri Apiaries, Louisiana.

Answer.—One type of burglar alarm consists of running a very small wire around the apiary, about six inches from the ground, having one end fastened securely and the other end attached to the trigger of a shotgun concealed in the branches of a tree so fastened that it will not fall, with the barrel of the gun pointing upward, and the shot removed from the cartridge. With the gun cocked and ready for action, the slightest pull on the wire by some one coming in contact with it will set the gun off. Your suggested plan of having dynamite placed in an empty hive would be rather dangerous. With the increasing amount of out-apiaries throughout the country, thieves have a greater opportunity to do some dirty work. It seems evident that some means of protecting apiaries from such marauders should be worked out in the future. Possibly a more efficient organization among beekeepers, also an intelligent cooperation of beekeepers with local police officers, would help to reduce pilfering in apiaries.

Getting Rid of Bee Moths

Question.—How can I get rid of bee moths in my hives and supers? I have a few supers piled up which are not in use and I find moths are starting in the combs. A. J. Hyde, New York.

Answer.—In order to prevent trouble from wax moths in hives occupied by bees it is necessary to keep strong colonies in modern hives. Such colonies are likely to repel the wax moths. All supers of combs stored in the honey house should be piled and covered carefully so that no moths may gain access to them. If, however, the combs contained eggs from the wax moths when taken from the hives, wax moths will develop later on. If moths should appear in stored supers, and if the combs are not badly affected, they may be given to strong colonies to be cleaned up. If the condition is more serious, the combs may need to be fumigated. In this case, place on the top of each pile of six deep supers, an empty super and in this empty super a pan containing one ounce of carbon bisulphide and leave tightly covered until the next day. The fumes when mixed with air are highly inflammable and the fumigation should, therefore, be done outdoors away from buildings. The fumes kill everything except the eggs. In about 12 days when the eggs hatch, another fumigation will be necessary. When treating combs in hive bodies it is necessary to have the hive bodies or supers piled as tightly as possible, so as to prevent the gas from escaping to any extent. See page 417, July issue.

Bees Gnawing Comb Foundation

Question.—Why do my bees cut the foundation out of my shallow frame supers? Last spring they also cut foundation which I left on all winter. The foundation in the spring was gone.—Byron B. Lorens, Maine.

Answer.—Bees will seldom or never gnaw foundation when honey is coming in or when there is a condition of prosperity in the hive. Many beekeepers make the mistake of putting comb foundation on the hives too soon, when the weather is cool and when no honey is coming in. They likewise make the mistake of leaving comb foundation on the hives after the honey season is over. Bees will not always gnaw it at such times, but it is always safer to take out any undrawn sheets at the close of the season. You say you left some of your foundation in all winter. This explains the trouble. When bees have nothing to do they are, like their human owners, liable to get into mischief. Even during a honey flow bees will sometimes gnaw around the wires, especially where two wires intersect. While they will fill up the holes later on with comb, such comb will usually be drone rather than worker cells. Comb foundation left in the hive during cold weather becomes dry and brittle. If it breaks, the bees are liable to gnaw it at the break when the weather warms up, and ruin the whole sheet.

Cyprians—Are They as Cross as Has Been Claimed?

Question.—I know a beekeeper who imported some Cyprian queens, and thought the bees would be hard to handle. But they were far more gentle than Italians, better workers, and more prolific, and flew further. He says there

are no real Cyprians in the U. S., and that what we call Cyprians are probably a cross between the Italians and Carniolans. This puzzles me as I have always thought Cyprians were hard to handle.—George Constable, Pennsylvania.

Answer.—We have imported Cyprian queens from the island of Cyprus, but their bees have been very vicious. One can handle them, but one must proceed very cautiously and use very little smoke. Too much smoke seems to infuriate them. The danger is that some one will make a mistake with the result that the bees rush out and sting everything in sight. That happened not once, but several times in our apiaries years ago, so often that we had to kill off the queens and abandon the race. This seems to be the experience of nearly every one, so far as we know, who has ever tried them. They breed well and are most excellent honey gatherers. If your friend has a strain of Cyprians that can be handled during rainy weather or under unfavorable conditions, he has bees that may be worth propagating, but our guess is that they are not true Cyprians. When we say Cyprians, we mean bees from the island of Cyprus. If there is any one in Europe or America who can furnish Cyprian bees that are gentle, such bees would be an acquisition indeed. This statement should be made: Cyprians may not give any trouble the first year, but if the colonies are large and weather conditions unfavorable, such as chilly or rainy weather, then look out. Better let them alone at such times.

Stings—When Fatal

Question.—Is it a fact that a bee sting on certain places of the head will prove fatal?—Celeste Reavis, North Carolina.

Answer.—The story that there are certain places about the head and other portions of the body of a human being, which, if stung, would cause death, is a myth. This is not saying, however, that a person might not die from receiving a single sting about the head or body. A few people are supersensitive to the effects of a sting. If the sting is not extracted immediately, the symptoms will be much worse than if it is left in the flesh. Care should be taken to scratch off the sting without squeezing the poison bag. There are very few people, hardly one in a hundred thousand, who is seriously affected by stings and even these people may keep bees if they become immunized gradually.

Dividing Strong Colonies in September

Question.—I would like to increase my ten colonies up to 20 or 25. Could I make divisions of strong colonies this month, giving each of the queenless divisions a young laying queen?—J. R. Davis, Pennsylvania.

Answer.—The advisability of dividing colonies depends on the nature of the season, as it pertains to nectar secretion, also the time of the year. The best time to divide colonies is at the beginning of a good honey flow, preferably during early June in your locality, at the beginning of the clover honey flow. It should be remembered, however, that it is rarely possible to divide colonies and at the same time secure surplus honey. It would be too late now in the North to divide your colonies, because the divisions might not build up to colonies of normal strength for winter. If you should divide and if the divisions should fail to build up sufficiently strong to survive the winter, you would then lose all of the divisions. On the other hand, if you leave your strong colonies undivided, you are more likely to have those colonies this coming spring provided, of course, you leave each colony an ample amount of stores. Package bees are priced very reasonably. Packages of bees installed the latter part of April in your locality and given the proper management should build up to colonies sufficiently strong in bees to store a crop of honey. If colonies are extra strong early in the spring and if they occupy double-story deep food chamber hives, it is sometimes possible to divide such strong colonies early in May, giving the new divisions young laying queens and to have the divisions reach the major honey flow in condition to store a crop of honey.

Getting Food Chambers Filled

Question.—During the latter part of the clover honey flow I put on some extracting supers intended for food chambers. The bees did not get the supers well filled. Do you think that the supers are likely to be filled by fall? We usually have a fall flow during August and September.—Lee R. Jones, Ohio.

Answer.—The proper time to get food chambers filled is during the main honey flow. Usually the food chambers carried over on the hives from the previous year have some honey in them at the beginning of the main flow. As the honey flow advances the food chambers are usually filled first, especially if they are placed directly over the brood chamber. The honey that is stored after the brood chambers are filled goes into the supers. If there is likely to be a fall honey flow in your locality and if your colonies are very strong in bees they may get the food chambers filled this fall.

XUM

American Honey Institute Notes

Guest Editor,
GEO. H. BOHNE,
Luling, La.

Former President and also Secretary, Southern Beekeeping States Federation. President of the Louisiana State Beekeepers' Association, a Leader in the South, and at present County Agent for St. Charles Parish, La.

As a "Guest Editor," I am a fraud. I consider myself one of the "family."

Most of the readers of this journal know more or less about beekeeping. The great majority probably KNOW more than they put into practice in their yards, and this same majority surely seems to know LESS than they THINK they do when marketing time comes along. I make NO apologies for this statement—the great discrepancy between the 800,000 beekeepers in the United States and the short list of Institute donors conclusively proves that I am right.

What is the American Honey Institute?

First, it is our publicity department. Publicity pays dividends. The average business man knows this—he calls it advertising. The Institute manages to get publicity for honey—YOUR HONEY—and the interest aroused increases the demand, makes a better market, and we ALL benefit.

Second, the Institute is NOT an object on which to bestow a "charity dollar" at times when we just can't avoid making a contribution. The Institute is OUR EMPLOYEE and our donations (?) are the wages we should pay for the services rendered. The Institute can not work in the interests of MY honey or YOUR honey—but does work for OUR honey—and our contributions make up the wages of good and faithful servants. Those on the Honor Roll are meeting their responsibility. ARE YOU?

Personal Piffle

For the past ten years or more we have been using my 1-2-3 spread on waffles: 1 part butter; 2 parts peanut butter; 3 parts (sometimes a little more) honey; cream this together with a fork—man fashion—and spread it over the hot waffle. This is a dangerous appetite teaser and makes trouble for the cook, as the number one helping is seldom enough and numbers two and three are served with ever increasing displeasure. I am a peaceable man, but the trouble I experience in getting number 3 is well rewarded by my gastronomical satisfaction.

Honey Harvest Festival Week

is scheduled for October 25-31. OUR Institute is outlining some very attractive programs for this event. These programs seem to be just what we men have been looking for—the women do all of the work of preparing nice things for the men to eat—all we do is to supply the honey.

If the Institute can induce the ladies to do all of this for us men, we men could reciprocate by making this a Harvest Week for the Institute. My 1936 pledge will be mailed in at the time and YOU can do the same—so, all together, "I hereby promise that I will send in my Institute contribution on or before October 25th."

If you donate honey, get it to your nearest receiver in time for a sale during the week. Thank you.

How Can We Enroll New Members?

Candidly, we can not do this. As every child born in the United States is, per se, a citizen, enjoying the full benefits of our laws and institutions, so is every beekeeper receiving the benefits of the work done by the American Honey Institute. Some citizens break the laws and are a liability—not an asset—to the nation, and the beekeeper who shirks his responsibility to the Institute, is simply enjoying benefits without cost. We can not avoid helping him—we would not injure him if we could—but we would certainly appreciate his co-operation in bearing the expense. The membership list is full but there is plenty of room on the Honor Roll of Contributors. Won't you join us?

Just News

Of the writing of bee books there appears to be no end. And yet the book entitled "Honey Production in the British Isles," by R. O. B. Manley, Benson, Oxon, England, just off the press in May of this year, has a freshness and flavor not generally found in such books. Mr. Manley is a successful commercial beekeeper, as well as a scientist and knows his subject. The book is worthy of a careful reading. The price is $2.00, post free.

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Reprints of an article by A. P. Sturtevant that appeared in the May 1, 1936, issue of the "Journal of Agricultural Research," entitled, "Quantitative Demonstration of the Presence of Spores of Bacillus Larvae in Honey Contaminated by Contact with American Foulbrood," are now available at the Government Printing Office, Superintendent of Documents, Washington, D. C., at 5 cents each domestic, and 8 cents foreign.

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The Long Island Daily Star for July 29 gives an account of bee venom treatments given at the first free clinic conducted by the Gridiron Club of Flushing. A number of cases are cited as having received the treatment and securing almost immediate relief. Dr. Bodog F. Beck is donating his time at this weekly free clinic, and is a close friend of the founder of the club, Dr. Thomas M. Neafsey. The clinic is restricted to benefit needy sufferers unable to pay for a private physician.

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Following the wedding anniversary of Mr. and Mrs. E. R. Root last December, comes another golden wedding anniversary, that of Mr. and Mrs. J. T. Calvert, on September 1. Mr. Calvert came to Medina from Canada 56 years ago and has since been associated with The A. I. Root Company. For about 25 pears, prior to 1919, he was general manager of The A. I. Root Company; also for a number of years he was business manager of Gleanings. Mrs. Calvert is the oldest daughter of the late A. I. Root.

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Following the banquet on the evening of July 14, of the Ohio State Field Meet at Delphos, Mr. and Mrs. E. R. Root, the guests of honor, were presented with a pair of two-branched candlelabras. W. A. Coulter, president of the Ohio State Association, in his presentation speech, referred to the four candle holders as representing the four corners of the United States covered by Mr. Root in his travels among beekeepers. Mr. and Mrs. Root were greatly pleased with the gift. Mr. Root, in thanking the Ohio beekeepers, said that the candlelabras matched perfectly the silver service that he and Mrs. Root had received at the International Congress of Beekeepers at Valdosta, Ga., about two years ago.

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One of the interesting developments at Cornell University, Ithaca, New York, is the Root-Langstroth Beekeeping Library, begun after Dr. E. F. Phillips went there. See page 539. The library is especially rich in German, Russian, French, Turkish, and Chinese beekeeping literature, although, of course, it contains virtually all books written in the English language in this field. It is strong in complete files of beekeeping journals, many of which have been received through exchange with foreign societies of beekeepers. Perhaps the most valuable part of the library for actual service is the extensive collection of reprints of articles from scientific journals from all parts of the world which Phillips has been collecting for thirty years. In order to facilitate the use of the material in other languages, there are hundreds of complete translations of scientific articles on file for the use of students. The more romantic side of beekeeping has not been neglected, for there is a collection of old relics of beekeeping of first importance. Moses Quinby's first honey extractor, with which he extracted the honey crop that broke the New York City market, a hive of Langstroth's original design, possibly manufactured by Langstroth himself, and certainly once owned by Richard Colvin, of Baltimore, with whom Langstroth was closely associated, the third roll foundation mill made by A. I. Root, Quinby's smoker and uncapping knife and other interesting relics of an older day in beekeeping are all preserved.

XUM

BUY AND SELL HERE

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in the 15th of month preceding.

HONEY FOR SALE

The reliability of honey sellers is not guaranteed, although strict references are required.

NEW white clover comb honey. Charles Guhl, Route 2, Napoleon, Ohio.

FOR SALE—New comb and extracted honey. H. G. Quirin, Bellevue, Ohio.

NEW crop clover comb and extracted honey. C. B. Howard, Geneva, N. Y.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

HONEY—Light and light amber extracted. F. W. Lesser, Fayetteville, N. Y.

CHOICE MICHIGAN clover honey in new 60's. David Running, Filion, Mich.

WHITE clover comb and extracted honey. Porterholm Apiaries, Adrian, Mich.

NEW clover comb, well filled, 24 lbs., $3.00. Clarence Engle, Kearneysville, W. Va.

CHOICE white clover honey in new 60's. Sample, 15c. Noah Bordner, Holgate, O.

FOR SALE—Fine grade light amber bulk comb honey. Hyde Bros., New Canton, Ill.

ORANGE, palmetto, or amber honey in new sixties. Peter W. Sowinski, Fort Pierce, Fla.

White clover extracted honey in 60-lb. cans. Send for sample and price. A. A. French & Son, Theresa, N. Y.

WELL-RIPENED clover honey in new 60-lb. cans and cases. Sample on request. B. B. Coggshall, Groton, N. Y.

FOR SALE—Finest quality and whitest comb honey in years, also white extracted. N. B. Querin & Son, Bellevue, Ohio.

NO RAIN—Our extracted clover honey is exceptionally fine, heavy bodied. Case or car. J. N. Harris, St. Louis, Mich.

TUPELO HONEY—Will not granulate. Barrels and 60-lb. cans, 7 and 8 cents per lb. Anthony Bros. Honey Co., Apalachicola, Fla.

OUR 1936 crop of Michigan clover honey is now ready for the market. Write us your requirements. E. D. Townsend & Sons, Northstar, Michigan.

HONEY PACKERS—Write us for prices and samples on California and western honeys. We stock all varieties. Hamilton & Company, 108 West Sixth St., Los Angeles, California.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Colo.

CLOVER honey. Sample, 10c. K. A. Gallant, Meridian, N. Y.

WHITE clover extracted honey. Harry T. Gable, Romulus, N. Y.

CHOICE white clover honey in 60-lb. cans. J. F. Moore, Tiffin, Ohio.

CLOVER, comb and extracted. Howard Grimble, Holcomb, N. Y.

FANCY new crop white clover extracted honey. Kalona Honey Co., Kalona, Iowa.

FIFTY cases quality clover at 8c per pound. Edward Dubiel, Trumansburg, New York.

FINEST extracted clover honey, case, $9.60. Sample, 10c. Wm. J. Martin, Owosso, Mich.

NEW CROP clover extracted and comb honey for sale. H. E. Crowther, Jefferson, Ohio.

CHOICE extracted clover honey, case, $9.60. Sample, 10c. Martin & Fuller, Owosso, Mich.

FOR SALE—No. 1 white honey and light amber. The Hubbard Apiaries, Onsted, Mich.

EXTRACTED honey, any kind, any quantity. H. Blitz, P. O. Box 3438, Philadelphia, Pa.

EXTRA QUALITY heavy clover extracted, case or ton. Scott's Honey Farm, La Grange, Indiana.

NEW crop finest clover honey in new 60-lb. cans. Price on request. Sample, 10c. H. B. Gable, Romulus, N. Y.

FOR SALE—Well ripened clover honey in 60-lb. cans. Write for prices. Sample, 15c. Geo. M. Sowarby, Cato, N. Y.

OAKVALE APIARIES—Exceptionally fine 1936 crop white clover comb honey. Forrest Dygert, Hammond, New York.

FINEST QUALITY white clover honey, $8.40 per case, 120 lbs. net. New cans. Sample, 10c. W. J. Manley, Sandusky, Mich.

NEW 1936 clover-sumac honey, light in color, ripe, rich, thick, 7c per lb. by the case. Albert Hann, Glen Gardner, N. J.

HONEY FOR SALE—All kinds, any quantity. H. & S. Honey & Wax Co., Inc., 265-267 Greenwich St., New York, N. Y.

NOW shipping finest white clover extracted in new 60's, 8c; No. 1 comb, per case, $3.50. None finer. F. J. Smith, Castalia, Ohio.

FOR SALE—New crop clover honey, in 60-pound cans, new cans and cases. Can to tons. Sample free. W. S. Earls & Son, New Canton, Illinois.

FIFTEEN CENTS brings sample of finest water white clover honey I have ever produced. State your wants. L. S. Griggs, 711 Avon St., Flint, Mich.

HOWDY'S HONEY—Fancy comb by carrier lots and white clover extracted in new sixties, carlots or less. Howard Potter, Ithaca, Michigan. Personal, Converse Laboratory, Cambridge, Massachusetts.

NEW crop white extracted, case or ton lots. Sample, 10c. Harry C. Kirk, Armstrong, Iowa.

FOR SALE—Fancy white clover honey in 60-lb. cans, 7½c lb. Sample, 15c. Jos. H. Hoehn, Ottoville, Ohio.

WHITE clover honey in 60-lb. cans, at 8c per lb. Write for price on large quantities. Sample, 15c. F. W. Summerfield, Grand Rapids, Ohio.

MOUNTAIN BOUQUET HONEY—High altitude helps to make a thicker finer honey. Ours is unusually nice this year. Can furnish any amount extracted and deliver promptly by truck. Vernon C. Culhane, Falfa, Colorado.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyers' financial responsibility and advise all beekeepers to sell for cash only, or on C. O. D. terms except when the buyer has thoroughly established his credit with the sellers.

WANTED—Dark honey, also capping melter honey. Edw. Klein, Gurnee, Ill.

WANTED—White, amber, and overheated honey. State price. C. Jankowski, Russell, Ill.

WANTED—Car lots or less extracted honey. Mail sample. J. Hassan, 1700 N. Franklin St., Philadelphia, Pa.

WANTED — Comb, chunk comb, extracted honey, all grades, any amount. Central Ohio Apiaries, Millersport, Ohio.

WANTED—Carlots of honey, state quantity, shipping point and price. Mail sample. Bryant & Cookinham, Inc., Los Angeles, Calif.

CASH PAID FOR COMB AND EXTRACTED HONEY. Mail samples and best price. C. W. Aeppler Company, Oconomowoc, Wis.

WANTED—Car lots or less; clover extracted honey and light amber, new cans. Clover Blossom Honey Co., 712 Kossuth St., Columbus, O.

WAX worked into comb foundation; accepted in trade for supplies or bought. Write for our proposition and shipping tags. Walter T. Kelley, Paducah, Ky.

FOR SALE

BEST bee hunting outfit. Grover, Bristol, Vt.

ELECTRICAL uncapping knives with transformer, 110-120 volts, 60 cycles, $14.00. Paul Krebs, 8000 Fulton Ave., Detroit, Mich.

HOFFMAN FRAMES, mail order brand, accurately made, $35 per 1000, f. o. b. Medina; while stock lasts. The A. I. Root Co., Medina, Ohio.

QUALITY bee supplies. Prompt shipment. Reasonable prices. We take honey and beeswax in trade for bee supplies. The Hubbard Apiaries, Onsted, Mich.

BEST QUALITY soft white pine Hoffman frames, $30.00 per thousanld. Complete line of bee supplies manufactured by us. All prices the lowest. Free catalog. The Walter Kelley Co., Paducah, Ky.

BEST quality bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Assoc., Denver, Colo.

FOR SALE — Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Mich.

SPECIAL CARDS AND LABELS. Mail Order Press, R. 4, Riverside, Calif.

USED ONCE 60-LB. CANS. Two in a wooden case. Write for prices. C. W. Aeppler Company, Oconomowoc, Wisconsin.

FOR SALE—Three-frame and capping extractor, side crank, like new, $10. A. P. Gard, 2313 E. Morgan Ave., Milwaukee, Wis.

GOOD BEEKEEPER'S home with enough acreage for dairy, poultry or light farming. Good set of buildings, artesian well, delightful climate. Good roads and good bee territory. Priced right for quick sale. Write N. C. Jensen, Macon, Miss.

SPECIAL — While stocks last. We have a limited supply of slightly damaged copies of the previous edition of "Starting Right with Bees." Price, 30c postpaid. We also have some damaged copies of the new A B C and X Y Z of Bee Culture, which are priced at $2.00. The A. I. Root Co., Box G-7, Medina, Ohio.

BEES AND QUEENS FOR SALE

ITALIAN queens. W. G. Lauver, Middletown, Pa.

GOLDEN Italian queens. Untested, 50c each. Sam Hinshaw, Randleman, N. C.

CAUCASIAN queens for balance of this season, 50c each. Lewis & Tillery Bee Co., Greenville, Ala.

SMALL apiary, $50. Clean inspection, July 30, 1936. Write for inventory. Rev. McKee, Alpine, N. Y.

YOUNG three-band Italian queens, at market price, mailed anywhere any time. D. W. Howell, Shellman, Georgia.

"SHE-SUITS-ME" queens. See page 186 of March number. Send for price list. Allen Latham, Norwichtown, Conn.

CAUCASIAN bees will increase your honey production and winter better. Queens, 50c each. P. B. Skinner Bee Co., Greenville, Ala.

GOLDEN Italian queens, 50c each; to dealers, 42½c each. Will trade for medium brood foundation or frames. Citronelle Bee Co., Citronelle, Ala.

STOP! LOOK!—Genuine three-banded Italian queens, 50c each. Satisfaction guaranteed. Alamance Bee Company, Geo. Elmo Curtis, Mgr., Graham, N. C.

FOR SALE—Nineteen colonies commercial strain Caucasian Italian bees; fifty supers; standard equipment; good crop of honey with the bargain. Guaranteed no disease. Hugh Palmer, West Salem, Ohio.

GOLDEN Italian queens that produce workers, very gentle to handle, good honey gatherers, health certificate, satisfaction guaranteed. Select tested, $1.50; tested, $1.00; untested, 50c. D. T. Gaster, Rt. 2, Randleman, N. C.

SUMMER TIME is requeening time. Good queens make wintering more sure and head strong swarms for the next season's honey crop. We offer the same good quality, prompt service and low price, 50c each. Can supply three-band Italians or gray Caucasians, reared in separate yards. Safe delivery guaranteed. Crenshaw County Apiaries, Rutledge, Ala.

LIGHT 3-BANDED ITALIAN QUEENS. We are one of the largest growers of queens in the United States, producing 100 queens or more daily. We ship only young, laying queens and guarantee them to be purely mated and satisfactory to you. You are the judge. Price, 50c each. To dealers, 42½c each. We need dealers in many localities. The Walter T. Kelley Co., Paducah, Ky.

XUM

50 COLONIES bees for sale, guaranteed free from disease; 2 multiple extractors, foundation mill; good for early package bees. J. F. Ropp, Washington, Ark. Rt. 2, Box 47.

EXTRA yellow Italian queens that produce bees a little more yellow than the three-banded; more gentle and just as good workers. Untested, 50c each; tested, $1.00 Health certificate and satisfaction. Hazel V. Bonkemeyer, Randleman, Rt. 2, N. C.

CHOICE bright Italian queens that are a pleasure to work with and be proud to own. The stock has been bred and selected in the North the past 33 years for good winterers, hustlers, gentleness, and fine color; 75c each; dozen, $8.00; breeders, $6.00. Emil Gutekunst, Colden, N. Y.

A NEW SERVICE FOR BEEKEEPERS—Three-banded Italians, mailed in our special introducing cage. Guaranteed to safely introduce to normal queenless colonies, or replacement free if our directions are followed. One to five, 55c each; five or more, 50c each. Silver Run Apiaries, Phenix City, Ala.

ELECTRIC PUMPS

WORLD'S SIMPLEST ELECTRIC PUMP—Only one moving part. Nothing to wear or cause trouble. 28-foot suction lift. Operates cheaply. Money-back guarantee. Thousands satisfied users. Write for free catalog. Dept. 259, Micro-Westco, Inc., Bettendorf, Iowa.

MISCELLANEOUS

WANTED—Exchange printing for honey. Snapp Printing Co., Greeneville, Tenn.

TWELVE-INCH Root make foundation mill; little used, $20; used bodies and frames cheap. Olmstead, 379 Bryant St., Buffalo, N. Y.

THE BEE WORLD—The leading bee journal in Great Britain, and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership of the Club, including subscription to the paper, 10/6. The Apis Club, L. Illingworth, The Way's End, Foxton, Royston, Herts, England.

CIDER MILLS

ORCHARD PROFITS increased using cull apples for cider and vinegar. Cider and grape presses, graters, pumps, filters, supplies. Booklet B, how to keep cider sweet and make vinegar quickly, free. Palmer Bros., Cos Cob, Conn.

TOO LATE FOR CLASSIFICATION

FINE quality white clover extracted, 8c. Sample, 15c. A. J. Wilson, Hammond, N. Y.

CHOICE quality extracted clover honey, 7½c lb. John Bour, 81 West Davis St., Tiffin, Ohio.

CLOVER, 8c; buckwheat, 6c, in sixties. Sample, 15c. No stamps. Otto Hurd, Phalanx Sta., Ohio.

CLOVER HONEY, exceptionally fine. Full cans. Write Frank Rasmussen, Greenville, Michigan.

FOR SALE—Five tons clover honey; new sixties, $8.40 per case. Lewis Bowsky, Brown City, Mich.

FOR SALE—New 4-frame Root multiple reversing extractor, 12" pockets, at bargain price. Diamond Match Co., Chico, Calif.

TALKS TO BEGINNERS

(Continued from page 561.)

combs from time to time. So long as colonies are doing well too much manipulation is not good for the bees. It disrupts the morale of the colonies and interferes with their normal development. It is a mistake to exchange the position of combs, unless this is absolutely necessary. Early in the fall bees begin storing pollen in the bottom of the cells from which young bees emerge. This pollen is covered up with honey and is used for brood rearing the following spring. This is a marvelous provision on the part of the bees, especially when pollen is needed badly the following season. Frequently during the spring months there may be a long, rainy cold spell during which the bees can not fly out to get fresh pollen. As the honey stored on top of the pollen is consumed, the pollen underneath this honey is available for the bees, and having been sealed hermetically, it is as fresh as the day it was put in the cells. It is needed for brood rearing. It is a mistake to remove combs containing pollen in the fall and to replace with combs containing no pollen.

Double Brood Chamber, or Food Chamber Hives

Quite a number of beginners are using double brood chamber hives, especially in producing extracted honey. This simply means that each queen has access to the combs in the brood chamber and the food chamber. In other words, what is commonly called the food chamber also becomes the brood chamber. This gives each queen an abundance of comb space for brood rearing and results in very populous colonies. Colonies occupying two-story brood chambers are not likely to run short of stores during winter and early spring.

Two Methods of Manipulating the Food Chamber

The former method of handling the food chamber was to keep it on top of each pile of supers during the honey flow and then to let it down on the brood chamber after removing the supers of honey. This method may have some advantages, as it helps to insure having full food chambers. With the present method, the food chamber is left on top of the brood chamber throughout the year. In producing extracted honey supers are added above each two-story brood chamber as needed. This means much less work and it certainly simplifies apiary management.

Every Progressive Beekeeper Should Read!

"Please do not fail to send me the July issue, as I look forward each month to Gleanings. I certainly believe that every progressive beekeeper should read Gleanings, and I must say that Gleanings is one magazine that is really worth-while and worth looking forward to from month to month." C. E. W., Penn.

(Unsolicited.)

BE SURE TO RENEW

NOW IS THE TIME TO PREPARE FOR NEXT YEAR.

1 Year, $1.00; two years, $1.50; 3 years, $ 2.00. (Foreign, 1 year, $1.25; 2 years, $2.00; 3 years, $2.75.)

Real Bargains

WHILE STOCK LASTS

50 lbs. 3⅞x15 Thin Super Foundation, packed in 25-lb. wooden boxes, price per 50 lbs....$27.60
50 eight-frame shallow supers, with nails 20.50
30 eight-frame Bottom Boards 14.15
15 eight-frame metal covers, with inner covers 11.95
30 eight-frame wooden covers 14.15
200 Jumbo frames 9.15
20 ten-frame Jumbo hive bodies 15.35
95 ten-frame Metal Flat Top covers, no inner covers.... 54.75

(F. O. B., New Orleans, La.)

F. A. Martiny & Son
2822-2824 MAGAZINE ST.
NEW ORLEANS, LA.

DO YOU HAVE OUR

1936 CONTAINER PRICES?

Roots Save You Money

COMPLETE MARKETING SERVICE

Root QUALITY Bee Supplies

THE A. I. ROOT CO.
MEDINA, OHIO

Root QUALITY Bee Supplies

Bright Italian Queens

BALANCE OF SEASON

50c each, any number

If you requeen with Taylor queens this fall you will be delighted when you open up next spring. Our special breeding method gives you winter protection, reduces swarming. Write for our circular and learn how we do it. Our location is free of disease.

TAYLOR APIARIES
LUVERNE, ALA.

Get Running's Queens

And Get Honey—They Satisfy

The kind WE use in our extensive Michigan Apiaries, where WE produce honey by the carload.

Accredited and certified ITALIAN stock, bred for gentleness and honey-getting.

Price, any number, 50c each.

QUICK SERVICE

DAVID RUNNING
Sumterville, Alabama

Mott's Northern-Bred Italians

Eliminate that swarm nuisance. Free list. Guaranteed purely mated.

September, 75c each; 25 for $18.00. Fair to good breeders, $2.00, $3.00, $5.00.

E. E MOTT, GLENWOOD, MICH.

MOUNTAIN GRAY CAUCASIAN QUEENS, GUARANTEED PURELY MATED, 50c EACH. WRITE FOR FREE CIRCULAR.

CAUCASIAN APIARIES,
BROOKLYN, ALABAMA.

ITALIAN QUEENS

Shasta Apiaries

SHASTA, SHASTA CO., CALIF.

Express Office, Redding, Calif.

GEO. W. MOORE F. W. CHAPMAN

ITALIAN

BEES AND QUEENS

"Good or Made Good"

ALONZO McKAY

Rt. 1. VICKSBURG, MISSISSIPPI
Inquiries cheerfully answered.

"BETTER-BRED QUEENS"

3-BANDED ITALIANS

50c EACH DEALERS ,42½c

September is the best month to requeen. Try our Better Bred stock and watch your increased yield next spring. If you wish dealers' prices, order direct from this ad.

CALVERT APIARIES, CALVERT, ALABAMA

←Morrison's Northern→

Three-banded or Leather-Colored Italians. Our foundation stock comes direct

→ From Northern Italy ←

QUEENS

1 to 25	60c	50 or over	50c
25 to 50	55c	Tested	$1.00

The Cloverdale Apiaries, Cloverdale, Ohio

FOR SALE

Pure Italian queens. Nothing but the best. Bright yellow and three-band. 50c each, subject to dealers' discount. You send for them, they go.

GRAYDON BROS.

Route 2. Greenville, Ala.

Imported Italian Queens

Our breeding stock recently imported from Italy. Better get those colonies in shape for the fall flow by requeening now.

Untested queens	$0.50 each
Tested queens	1.00 each
Breeding queens	5.00 each

THE CROWVILLE APIARIES

RT. 1. WINNSBORO, LA.

NOW

Is the **BEST** time to **REQUEEN** with **HOLLOPETER'S** strain of three-banded **ITALIANS.** Rain and sunshine in right proportions provide ample supplies of nectar and pollen from fall flowers, producing the finest of queens, and drones for mating. Better service, too, now.

Untested queens, any quantity, 50c each. Tested, $1.00. Satisfaction guaranteed. Address—

WHITE PINE BEE FARMS

Rockton, Pa.

(With Gleanings from 1911.)

MOORE'S STRAIN

Leather Colored Italian Queens

Superior Stock

50c Each

World-wide reputation for honey gathering, hardiness, gentleness, etc., since 1879. Safe arrival and satisfaction guaranteed.

J. P. MOORE

Morgan, Kentucky

Queens and Supplies

Stop winter losses by using Overbey's selected young vigorous queens. The best that money can buy are grown in Bunkie, La.

——**Any number, 50c; less 15% to dealers**——

Supplies—We can save you money—Factory to consumer. Cypress hive bodies, tops and bottoms, and frames a specialty. Let us quote you.

OVERBEY APIARIES, BUNKIE, LOUSIANA

Requeen During the Fall Honey Flow

MERRILL'S

ITALIAN QUEENS

will bring your bees

safely through the winter

Fall requeening produces strong colonies of young hardy Italian bees that withstand cold weather better than old bees.

Market Agreement Prices

Merrill Bee Company

BUCATUNNA, MISS.

XUM

A Good Rule to Go By

Buy your bees and queens from

ALABAMA APIARIES

MT. PLEASANT, ALA.

Queens, 50c.

Packages, $1.95 and $2.55.

QUEENS, 50c EACH

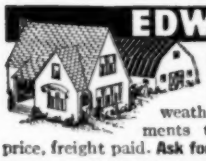
For balance of season. And they are those Palmetto Quality Queens—the three-band Italians that don't disappoint you. Orders from wholesale dealers solicited. 15% discount to dealers. No disease.

C. G. ELLISON, BELTON, S. C.

World War Vet. **NORTHERN ITALIAN QUEENS** Member V. F. W. Post No. 587.

Queens that satisfy. Price, 1 to 9, 60c each. 10 or more, 50c each. Money back if not satisfied in 30 days.

WEST BRANCH APIARIES, Grover Hill, Ohio.



EDWARDS METAL ROOFS

Look better, last longer, cost less. Protection from fire, lightning, wind and weather. Send roof measurements today for money-saving price, freight paid. **Ask for Catalog 88.**

THE EDWARDS MANUFACTURING CO.
933-983 BUTLER ST. CINCINNATI, OHIO

SAN ANTONIO MEETING

(Continud from page 538.)

mile per person for three, or three-fourths cents for five. Rooms and hotels at San Antonio will be all the way from $1.00 per day for two to $3.50. Write in advance to E. G. LeStourgeon, Editor Beekeepers' Item, Box 838, San Antonio, and don't forget to include postage or a self-addressed and stamped envelope.

Meals and gas at San Antonio will be much cheaper than in the North.

Arrangements can be made for auto parties to camp out and cook their own meals at one of the numerous tourist places in the city. In that case, bring along a tent and cooking utensils.

Letters coming in indicate that hundreds of beekeepers are planning to take in the big International at San Antonio—and perhaps a bull fight in old Mexico.

E. G. LeStourgeon is making arrangements for special hunting parties and a trip to old Mexico. Russell H. Kelty, of Michigan, will take along his gun and so will dozens of others. Genial "Guy" (E. G.) Le Stourgeon has promised to show the boys where to go.

Finally, hundreds of beekeeper-farmers who can not stand the cold North are looking for farms in the South and where they can keep bees. Texas is big enough to take in the entire North—give prospectors a home, a farm, and a place to keep bees and in a climate that the doctors say is the best in the world.

YORK'S PACKAGE BEES AND QUEENS

QUALITY BRED ITALIANS

BETTER THAN EVER—LARGER SUPPLY—BETTER SERVICE—YOUNG BEES—FULL WEIGHT—SAME PRICE.

Marketing Agreement Prices Are Your Protection for a Higher Standard of Quality.

Untested Queens	50c each, any number
Tested Queens	$1.00 each, any number
2-lb. pkgs. bees with queens	$1.95 each, any number
3-lb. pkgs. bees with queens	$2.55 each, any number
2-lb. pkgs. bees without queens	$1.45 each, any number
3-lb. pkgs. bees without queens	$2.05 each, any number
For additional lbs. of bees, add	60c each, any number

15% Discount to Recognized Dealers Only.

YORK BEE COMPANY, JESUP, GEORGIA

(The Home of Quality Products)

ITALIAN QUEENS

THE FAMOUS ROOT QUALITY.

FALL REQUEENING

Makes stronger colonies for next year's honey flow. Prove the value of fall requeening in your own apiary.

Fall prices: 1-4, 75c each; 5 to 24, 70c each.

THE A. I. ROOT CO., MEDINA, OHIO

MOUNTAIN GRAY CAUCASIAN QUEENS FOR SEPTEMBER

at 50c each, untested, any number; tested, $1.50 each; select tested, $2.00 each. 10 years ago a price like above was not thought possible for such quality queens, as they could not be bought, even at any price, in this country. For easy handling and good honey-gathering, try Caucasians.

BOLLING BEE CO.
BOLLING, ALABAMA

"THE 'QUEEN' OF THE CROP"

We don't have to tell you how important a queen is. But we WOULD like you to know that we have quality queens and can deliver them promptly.

THE PUETT COMPANY
HAHIRA, GEORGIA
"Where Satisfaction is a Certainty."

HONEY LABELS, THIRTY DESIGNS. THE A. I. ROOT CO., MEDINA, OHIO.

REQUEEN LEST THEY PERISH

A young queen now is your best insurance against winter loss. Untested, 50c; Tested, $1.00.

J. M. CUTTS & SONS
R. 1. Montgomery, Alabama

Honey-gate for 60-lb. cans. Saves time and labor, eliminates splashing and dripping. Well-made, nickel plated. No sticky floors to clean up. Measure across top of cover for size wanted. 1¾" to 3" covers. Only $1.00 plus postage. Weight, 1 lb.

These pliers are made special for bee-hive work, and will give excellent service. You can remove heavy combs with ease. Cadmium plated. Price, $1.00 postpaid. Order from ERNEST FAHLBECK, 406 S. Springfield Ave., Rockford, Ill., or C. W. AEPPLER CO., Oconomowoc, Wisconsn.

PATENTS—Williamson & Walton
Attorney for The A. I. Root Co.
Munsey Bldg. Washington, D. C.

Profitable Marketing

DEMANDS

Attractive Labels

SEND FOR SAMPLES

30 Honey Labels

The A. I. Root Co., Medina, Ohio

Largest Honey Label Printers in the United States

Satisfaction guaranteed

XUM

A HONEY DISPENSER TOP

FREE

It Fits a Pint, Quart, or Two-Quart Jar

It Encourages the Daily Use of Honey

Through a special arrangement with the manufacturers, American Honey Institute is able to give during

SEPTEMBER ONLY

One Dispenser Top with Each Membership of $1.50 or more. Mail your subscription at once and receive service for one year including Honor Roll Listing, Annual Report, Recipe Releases and selling ideas.

AMERICAN HONEY INSTITUTE, MADISON, WISCONSIN

Name .....

Address .....

Amount of Membership $..... Date.....

QUEENS

Good Yellow Italians. The kind that produce bees that are gentle, hardy, and great honey gatherers.

Untested $0.50
Tested $1.00

W. O. GIBBS COMPANY
BROOKFIELD, GA.

QUEENS

Italians — Caucasians
50 CENTS EACH
15% discount to dealers
Prompt, efficient service.
WEAVER APIARIES
NAVASOTA, TEXAS
Agents for Pinard Nailess Queen Cage.

Caucasians

Extra gentle, prolific, long tongue, little swarming, dependable workers—10% to 40% ahead of Italians. Wintered here out-of-doors and bred in a climate like their native land—severe winters—cold windy springs—thus insuring their good qualities. Foundation stock from mountainous province of Terek, Caucasus.

Carniolans

Prolific at all times, very gentle, best of winterers, build beautifully white combs, most excellent workers. My Carniolan queens headed colonies producing 435 lbs. extracted per colony over the whole yard. 28 years' experience with them. Have supplied many State Agricultural Colleges and Experiment Stations with them. My own and Jan Strgar imported strains.

Prices—Untested queens, 1 to 6, 60c each; six or more, 50c each. Tested, $1.00 each.

Both races winter better than average Italians. Both races build up more readily during the unfavorable springs of our eastern and northern states and are ready for the early flow. Both these races will improve your Italians in gentleness and honey gathering. Put in some of these fine queens during September and October to begin the season of 1937. Replace all old and failing queens and those cross ugly colonies with gentle bees.

Albert G. Hann

GLEN GARDNER, NEW JERSEY

September

One of the best months in the year to requeen.

Head your colonies with our young mated Italian queens. We do not ask you to take our word for their quality; ask some one who has used them. You will find them all over the United States and Canada. We are prepared to give you prompt service on all orders, large or small. We will be glad to send by air mail if you so specify.

Untested Queens, 50c each.
Tested Queens, $1.00 each.
15% discount to dealers.

The Stover Apiaries, Mayhew, Mississippi

XUM

JENSEN'S

QUEENS at the head of your colonies will be a big step forward in their preparation for successful wintering, and building up next spring. During the fall honey flow is an ideal time for requeening, or even after all brood has hatched queens are easily introduced.

No queens, anywhere, are subjected to as severe duty as those in package colonies, and our breeders are selected from those going strong in their second and even third year. Many colonies that gave ten and twelve pounds of bees during the package season, have built up and are yielding fifty to seventy-five pounds surplus honey. Just ordinary strains of bees would not have done this well. There must be a reason.

Try requeening at least half your colonies with our queens this fall and watch results next spring; you have a happy surprise in store. With our requeening nearing completion, we have just a few more Select Tested Queens which we are offering, two FREE on the basis of $1.00 for membership in the American Honey Institute. Many have taken advantage of this proposition.

Select Untested Queens to Nov. 1st,

50c each

JENSEN'S APIARIES

MACON, MISS.

"YES"

QUEENS VIA RETURN MAIL. NO DELAYS. I SHIP WHEN YOU WANT THEM.

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PRICE LIST
SELECT UNTESTED QUEENS, 50c EACH. SELECT TESTED, $1.00 EACH.
15% DISCOUNT TO DEALERS FOR RE-SALE.

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ACCREDITED AND CERTIFIED BY ALABAMA STATE DEPT. OF AGRICULTURE.

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ALL QUEENS GUARANTEED PURELY MATED

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W. E. HARRELL

Formerly Hayneville Apiary Co.
HAYNEVILLE ALABAMA

INDEX TO DISPLAY ADVERTISEMENTS

Alabama Apiaries 572
American Bee Journal 518
American Honey Institute.....574
Bolling Bee Co. 573
Calvert Apiaries 570
Caucasian Apiaries 570
Clark Spray Machine Co.....514
Cloverdale Apiaries 570
Crowville Apiaries 571
Cutts & Sons, J. M. 573
Dadant & Sons 520
Edwards Mfg. Co. 572
Ellison, C. G. 572
Falconer Mfg. Co., W. T. 514
Fahlbeck, Ernest 573
Garon Bee Co. 519
Gibbs Co., W. O. 575
Graydon Bros. 571
Hann, Albert G. 575
Harrell, W. E. 576
Hazel-Atlas Glass Co..Inside back cover
Honey Packers, Inc. 518
Hunt & Son, M. H. 515
Jensen's Apiaries 576
Kelley Co., Walter T. 518
Kitselman Fence Co.....514
Lewis Co., G. B. .....Inside front cover
Lotz Co., August 515
McKay, Alonzo 570
Martiny & Son 569
Merrill Bee Co. 571
Moore, J. P. 571
Mott, E. E. 570
Muth Co., The Fred W. 515
Overbey Apiaries 571
Puett Co. 573
Root Co., The A. I.,
Back cover, 569, 572, 573
Root Co. of Chicago, A. I.....514
Root Co. of Syracuse, A. I. 514
Running, David 570
Shasta Apiaries 570
Stover Apiaries 575
Taylor Apiaries 570
Weaver Apiaries 575
West Branch Apiaries 572
White Pine Bee Farms 571
Williamson & Walton 573
Woodman Co., A. G. 519
York Bee Co. 572